Historic, archived document

Do not assume content reflects current
scientific knowledge, policies, or practices.

For
no. 3

VOL. I, NO. 8
August 1937

Foreign Agriculture

. . . . . a Review of Foreign Farm Policy, Production, and Trade

LIBRARY
RECEIVED
NOV 16 1945
U. S. DEPT. OF AGRICULTURE

H M STEECE
OFFICE OF EXPT STATIONS
U S DEPT OF AGRICULTURE
F45-3 WASHINGTON D C

Issued Monthly by
UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS
WASHINGTON, D.C.

NOTE . . .

The article on British imperial preference, starting on page 373 of the current issue, is intended to introduce in a general way the subject of imperial preference in relation to United States farm exports. In future issues of "Foreign Agriculture", an attempt will be made to analyze the effect of imperial preference on specific farm exports from the United States, with particular reference to the competition from similar Empire products.

- - - - -

CONTENTS

Page
British Imperial Preference - Its Relation to
United States Farm Exports 373
Argentine Corn 393
Recent Developments in Foreign Agricultural Policy 419
British Agricultural Policy 419
Argentina Authorizes Establishment of a
Meat-Marketing Agency 420
Italian Agricultural Policy 421
Argentina Organizes Wool Research Institute 421

- - - - -

BRITISH IMPERIAL PREFERENCE -
ITS RELATION TO UNITED STATES FARM EXPORTS

. . . . By Harry L. Franklin*

Foremost among foreign markets for United States farm products is the United Kingdom. Our exports of agricultural commodities to that market in 1936 were valued at $245,061,000, representing more than 50 percent of our total exports to the United Kingdom that year, and about 35 percent of our agricultural exports to all countries. The bulk of United States agricultural exports to the United Kingdom consists of cotton, leaf tobacco, fruits, and pork products; wheat and wheat flour were formerly important. Preferential tariff treatment in favor of competing Empire products was instituted on a modest scale in 1919 and was gradually extended thereafter, reaching a climax in the Ottawa Agreements of 1932 and the Import Duties Act earlier that year. These measures have significantly influenced our agricultural exports to the United Kingdom.

Imperial Preference Defined

Imperial preference has been defined as "the charging, by States belonging to the British empire, of lower duties on goods coming from another State of the empire than on like goods coming from countries outside the empire, or in exempting empire goods from duty altogether." 1/ This is the generally accepted definition of imperial preference, but it may be pointed out that it does not include other forms of preference to Empire products and corresponding disadvantage to foreign goods through shipping restrictions, methods of valuation and payment, policy regarding purchases for governmental or public use, and preference in connection with import quotas, which, with the exception of the last named, will not be discussed herein. This study has been confined primarily to tariff preferences granted by the United Kingdom to Empire products, that is, British imperial preference.

---

* Agricultural Economist, Bureau of Agricultural Economics.

1/ Article on Imperial Preference, by Sir William James Ashley, in the Encyclopaedia Britannica, 14th ed., Vol. 12, p. 122.

Imperial Preference Prior to 1919

As early as the middle of the seventeenth century, Great Britain sought to monopolize its colonial trade through the Navigation Acts and by granting preferential tariff treatment to certain products from British colonies. During the period 1823 to 1846, the preferential system was extended to a wide range of colonial products - 375 separate items out of 1,825 listed in the Act of 1842 (Peel's tariff). The rapid growth of industrialism in Great Britain, however, led to a widespread demand for free trade, which after long political controversy culminated in the repeal of the Corn Laws in 1846. Preferences on a number of other colonial products were reduced or repealed, and in 1860, the year of the Cobden Treaty with France inaugurating a free-trade policy, the last remaining preferences were abolished. From then on until the World War, protectionism did not exist, although a tariff for revenue was maintained on tea, tobacco, liquors, coffee, chocolate, and a few other items.

From 1860 to 1919, no tariff preferences were granted by the United Kingdom to the products imported from other parts of the British Empire, although United Kingdom products enjoyed certain tariff preferences in several Empire areas, notably in Canada since 1897, later South Africa, Rhodesia, New Zealand (1903), Australia (1907), and the British West Indies (1913).

The subject of imperial preference was broached at the first Colonial Conference in 1887; but, as the meetings were strictly informal, no resolutions were made. The Colonial Conferences of 1897 and 1902 were presided over by Joseph Chamberlain, the Colonial Secretary, who ardently supported the principle of imperial preference urged by most of the colonial representatives. Favorable action was not taken by the Government, however, because of the lack of popular support in England. Mr. Chamberlain resigned in September 1903 in order to campaign for a program of imperial preference and tariff protection, but the overwhelming victory of the Liberals in the 1906 general election definitely checked the movement for a time.

Public sentiment in Great Britain regarding imperial preference became radically changed in the course of the World War. Early in 1917 both the Committee on Industrial and Commercial Policy after the War (headed by Lord Balfour) and the Imperial War Conference recommended the adoption of imperial preference. In April 1917, the coalition government announced its acceptance of the principle of imperial preference. The British Government withdrew from the Brussels sugar convention in 1918, stating that it had now approved the principle of giving preference to Empire sugar. Finally, the finance act of 1919 established preferential tariffs or rebates of part of the full tariff rates on imports into the United Kingdom from other parts of British Empire of products dutiable under the existing tariff, as described in more detail below.

British Imperial Preference Reestablished

After an interval of 60 years of nonpreference and free-trade policy, imperial preference in Great Britain was reinstituted by section 8 of the finance act of 1919, effective September 1, with the exception of the preference on tea, which became effective on June 2. The import duties on Empire tea, cocoa, coffee, chicory, dried or preserved fruits, sugar, glucose, molasses, saccharin, articles containing sugar and tobacco, and motor spirits were reduced by one-sixth, representing a preferential rebate of 16-2/3 percent in the full tariff rates applied to the same products of non-Empire origin. Empire wines were accorded reductions by varying amounts depending on the proof content. The preference on Empire spirits took the form of a surtax on foreign spirits of 2 shillings 6 pence per gallon in addition to the regular import duty.

Included in the scope of imperial preference were also the so-called McKenna duties established in 1915 on motor cars and motor cycles, including parts and accessories; motion-picture films; musical instruments and parts thereof; and clocks and watches, including component parts thereof. (The McKenna duties were imposed purportedly to increase revenue and, in view of the foreign-exchange situation, to discourage imports. The duties lapsed August 1, 1924, and were reimposed July 1, 1925.) On imports of manufactured articles of Empire origin to which the McKenna duties were applicable, a reduction in the full rate by one-third was granted under the provisions of the finance act of 1919. Manufactured goods were not generally entitled to preference on importation into the United Kingdom unless 25 percent of their value (5 percent in the case of manufactured tobacco, sugar, and sugar products) was the result of labor within the British Empire. In 1933 this requirement was increased to 50 percent on a wide range of articles and, in exceptional cases, 75 percent.

Several changes and extensions in this scheme of British imperial preference were made by the finance act of 1925, notably the increase in preference on Empire unmanufactured tobacco from one-sixth to one-fourth of the full duty. The margin of preference on wines exceeding 30° of proof spirit was doubled, and the preferential rebate on the surtax applying to sparkling wine was increased from 30 percent to 50 percent of the full surtax. Furthermore, the duties on Empire dried fruits were abolished. Preferences at the rate of one-third the full duty were granted on Empire hops, lace, and embroidery, and in the duties on cutlery, gloves, and gas mantles which were imposed in December 1925 by the customs duties act. In the case of silk duties, the preference in favor of Empire goods was set at one-sixth the full duty. More favorable changes were made in the preferences applying to Empire sugar and sugar products, and these preferences, together with all then-existing preferences, were stabilized by the finance act of 1926 for a period of 10 years unless the full duties should be reduced below the amount of the preference, in which case the Empire product would become duty free. Also under the finance act of 1926, Empire packing and wrapping paper was granted a preference of one-third the new duty established on packing and wrapping paper. In 1927, a preference of one-third the new duty on translucent pottery, and in 1928 on buttons and hollow ware, was extended to imports from Empire sources.

Dyestuffs preference and key industries acts

The Dyestuff (Import Regulation) Act, 1920, effective January 15, 1921, represented action on the part of the British Government to carry out its promise of special protection for the dyestuff industry. The importation of all synthetic organic dyestuffs and intermediates was prohibited, except under licenses to be issued by a special commission. The act stipulated that a license would be issued when the application related to goods of this kind wholly produced in the British Empire.

Under the Safeguarding of Industries Act, 1921, which became effective October 1, 1921, ad-valorem duties of 33-1/3 percent were imposed on certain classes of articles, an adequate supply of which is considered essential to national defense, but imports of Empire origin were exempted from the duty. These "key" industry articles included binoculars, microscopes, other optical instruments, thermometers and laboratory glassware, optical glass, galvanometers and other scientific instruments, wireless valves, vacuum tubes, magnetos, hosiery latch needles, arc-lamp carbons, metallic tungsten, synthetic organic chemicals (except dyestuffs imported for use as such), and certain other articles. Imports of these key-industry articles, however, constituted much less than 1 percent of Great Britain's total annual imports. In 1926 the Safeguarding of Industries Act (1921) was extended for a period of 10 years; the duty on optical instruments and optical glass was increased from 33-1/3 percent to 50 percent ad valorem; and the key-industry duty was altered to include amorphous carbon electrodes, molybdenum, ferro-molybdenum, vanadium, ferro-vanadium, compounds of molybdenum or vanadium, and component parts of optical and scientific instruments.

The Imperial Conferences of 1923, 1926, and 1930

The principle of imperial preference was definitely reaffirmed in a resolution adopted at the Imperial Economic Conference held in London in 1923. Trade figures were set forth indicating a substantial increase in imports into Great Britain from other parts of the Empire as a result of the preferences established in 1919. The British Government proposed material increases in the existing preferences on Empire tobacco, sugar, dried fruits, and wines, and new preferences on fresh apples, fruit juices, canned salmon, honey, barley, and hops by establishing duties on these products when imported from foreign countries and exempting wholly or in part (depending on the product) corresponding imports from Empire sources. The Conservative government was defeated a few months after the conference, however, and the proposed preferences were deferred until the Conservatives regained power in 1925, when most of the proposed preferences were incorporated in the finance act of that year, as already mentioned herein.

While the importance of preference as a stimulus to intra-imperial trade was duly emphasized at the Imperial Conference of 1926, no additional extensions of preference resulted. Among various methods recommended for the promotion of intra-Empire trade, the preparation of market surveys on a commodity or trade basis was stressed; for carrying out this recommendation the facilities of the Empire Marketing Board, the Imperial Economic Committee, and other Empire agencies were subsequently utilized.

British representatives stated at the Imperial Conference of 1930 that, while the development of intra-imperial markets was of great importance, the interests of the United Kingdom precluded an economic policy prejudicial to its foreign trade or adding to the burdens of the people. But British fiscal policy did not preclude marketing propaganda calculated to promote the consumption of Dominion products in the United Kingdom. Moreover, the existing preferential margins granted by the United Kingdom were assured for a period of 3 years only instead of extending to July 1, 1936, as provided for in the finance act of 1926. Obviously the Labor government in 1930 was less favorably disposed toward imperial preference than was the preceding Conservative government.

Developments Since 1931

Tariff and preference measures, 1931, and early 1932

After the general election in October 1931, the British Government, acting under its new mandate, introduced a series of tariff measures and extensions of imperial preference culminating in the adoption of a general policy of protection. Under the provisions of the Abnormal Importations (Customs Duties) Act, of November 24, 1931, duties up to 50 percent ad valorem were imposed on a wide range of manufactured goods in order to check abnormally large importations in anticipation of protective tariff action, but no agricultural products were specified. The act, valid for a period of 6 months, authorized duties up to 100 percent ad valorem, if deemed necessary by the Board of Trade, and specifically exempted Empire products, provided at least 25 percent of their total value was the result of labor within the Empire.

Under the Horticultural Products Act of December 11, 1931, the Minister of Agriculture was authorized to levy duties up to 100 percent ad valorem on certain fresh fruits, vegetables, and floricultural products, except on such products of Empire origin. With the exception of plums, however, none of the products concerned were exported from the United States to the United Kingdom in significant quantities. The duties imposed under this act were considered temporary, and on September 1, 1932, a permanent schedule was put into effect.

A general tariff of 10 percent ad valorem on imports from sources outside the Empire was inaugurated by the Import Duties Act, 1932, effective on March 1 of that year, except on goods already subject to import duties and certain goods specifically exempted, such as wheat, meat, live animals, cotton, and wool. By an order effective April 26, 1932, the 10-percent ad-valorem general tariff was increased to rates ranging from 15 to 33-1/3 percent, with 20 percent the predominant figure, on most classes of manufactured goods involved. Products from the Dominions, India, and Southern Rhodesia were specifically exempted from these duties and any additional duties until November 15, 1932, during which interval the Imperial Economic Conference was to meet at Ottawa and determine intra-imperial trade and tariff policy. Products from other parts of the Empire have remained free of these duties, with the exception of Irish Free State products since November 15, 1932. British imperial preference is not extended to products originating in the British Mandates of Palestine and Transjordan.

The Ottawa Agreements

The final step in the adoption of protectionism for all British industries, both agricultural and industrial, and of a fairly comprehensive system of imperial preference was taken at the Imperial Economic Conference held at Ottawa in the summer of 1932. Of the twelve agreements concluded at the Ottawa Conference, seven were between the United Kingdom and Canada, Australia, New Zealand, South Africa, British India, Newfoundland, and Southern Rhodesia. They received legislative approval by the British Parliament through the Ottawa Agreements Act of November 15, 1932. The remaining five agreements were inter-Dominion.

The general policy enunciated in the agreements entered into by the United Kingdom was that first support would be accorded its domestic agriculture but that the Dominions would be given an expanding share in the import requirements of the British market (presumably at the expense of foreign suppliers). The agreements (except that with British India) were for a period of 5 years following the date of signature (August 20, 1932) and they were to continue in force thereafter subject to 6 months' notice of denunciation. The agreement with British India was made terminable at any time on 6 months' notice.

As stipulated in the pertinent Ottawa Agreements, the United Kingdom imposed new duties, specific duties, or higher ad-valorem duties effective November 17, 1932, on a long list of non-Empire agricultural commodities (several of which were already dutiable at 10 percent ad valorem), including wheat, corn, butter, cheese, eggs, condensed and powdered milk, citrus fruit, dried and preserved fruits, honey, and various fresh fruits, including apples, pears, peaches, plums, and grapes (non-Empire fresh fruits are dutiable on a seasonal basis, except apples and pears).

Table 1. New or increased duties on non-Empire products imported into the United Kingdom, effective November 17, 1932, and preferential rates on like Empire products

Commodity	Pre-Ottawa rates		Rates imposed Nov.17, 1932	
	Preferential	General	Preferential	General
Eggs in the shell	Free	10% ad val.	Free	1s. to 1s.9d. per 120
Butter	"	10% ad val.	"	15s. per cwt.
Cheese	"	10% ad val.	"	15% ad val.
Condensed milk:				
Whole, sweetened	a/ "	a/10% ad val.	a/ "	a/b/5s. per cwt.
Whole unsweetened	"	10% ad val.	"	b/ 6s. per cwt.
Milk powder and other preserved milk, unsweetened.	"	10% ad val.	"	5s. per cwt.
Wheat, in grain	"	Free	"	2s. per quarter
Corn, flat white	"	"	"	10% ad. val.
Apples, raw	"	10% ad val.	"	4s.6d. per cwt.
Pears, raw	"	10% ad val.	"	4s.6d. per cwt.
Oranges	"	10% ad val.	"	3s.6d. per cwt. c/(Apr.1-Nov.30)
Grapefruit	"	10% ad val.	"	5s. per cwt. c/(Apr.1-Nov.30)
Grapes, hothouse excepted.	"	10% ad val.	"	1.5d. per lb. c/(Feb.1-June 30)
Peaches and nectarines, raw	"	d/	"	14s. per cwt. c/(Dec.1-Mar.31)
Plums	"	d/	"	9s.4d. per cwt. c/(Dec.1-Mar.31)
Dried fruit:				
Figs	"	7s. per cwt.	"	e/10s.6d. per cwt.
Prunes	"	7s. per cwt.	"	10s.6d. per cwt.
Raisins	"	7s. per cwt.	"	10s.6d. per cwt.
Apples, canned	a/ "	a/10% ad val.	a/ "	a/3s.6d. per cwt.
Other canned fruits	a/ "	a/10% ad val.	a/ "	a/ 15% ad val.
Honey	"	10% ad val.	"	7s. per cwt.
Linseed f/	"	Free	"	10% ad val.
Rice f/g/................	"	10% ad val.	"	1d. per lb.
Certain vegetable oils f/.	"	10% ad val.	"	15% ad val.

1s. = 12d. Average annual rate of exchange of 1 shilling: 1932, 17.5 cents; and 1936, 24.9 cents. 1 cwt. = 112 pounds. 1 quarter = 8 bushels.

a/ Plus duty in respect of sugar content, with preferential sugar duty in case of Empire products. b/ In addition to the 10-percent ad-valorem duty. c/ Otherwise, the duty is 10 percent ad valorem. d/ The duty on peaches and nectarines (hothouse) from April 1 to October 31, inclusive, was 1s. per pound and on plums from June 1 to October 31, inclusive, 9s.4d. per cwt. During other months the duty on these products was 10 percent ad valorem. e/ Reduced to 7s. per cwt. (the pre-Ottawa rate) on June 20, 1935, with consent of the Dominions concerned. f/ Effective January 1, 1933. g/ Husked or cleaned whole.

Several changes in the 10-percent general ad-valorem rate were to specific duties representing higher ad-valorem equivalents, such as that applying to fresh apples, on which the new specific rate was equivalent to 20.6 percent ad valorem for 1933 imports from the United States, and to 52.3 percent ad valorem on United States cleaned rice. These tariff changes - rates of the new or increased duties and the former duty status, together with the stipulated duties in the agreement with India on rice, linseed, and certain vegetable oils, which became effective January 1, 1933 - are indicated in the table on the preceding page.

Imports of all these products from Empire sources remain duty free (with the exception of the preferential duty on the sugar content of condensed milk and preserved fruits) under the provisions of the Ottawa Agreements. But the duty-free treatment accorded Empire wheat is conditional upon producers offering this commodity in the United Kingdom at prices not exceeding the world price and in quantities sufficient to satisfy United Kingdom consumption.

Duties were subsequently imposed under the Ottawa commitments by the United Kingdom on imports of non-Empire cod-liver oil and chilled or frozen salmon, effective July 4, 1933; and through the finance acts of 1934 and 1935 patent leather and rice in the husk, respectively, of non-Empire origin, were brought within the scheme of the Ottawa Agreements. The general 10-percent ad-valorem rate on patent leather was increased to 15 percent, effective April 18, 1934, while that on rice in the husk was replaced by a specific duty of 2/3 d. per pound on April 16, 1935.

All the margins of preference stipulated in the Ottawa Agreements were assured for a period of 5 years (except those in the agreement with India, and also the preference margins on eggs, poultry, and dairy products, which were restricted to 3 years) unless changed by mutual consent. Provisions were made also for assured continuance of the general margin of preference (10 percent ad valorem) on a number of Empire products over competing foreign products, established by the Import Duties Act of March 1, 1932, unless a reduction in the margin is consented to by the Dominion concerned. (This does not apply to the Irish Free State, a nonparticipant in the Ottawa Agreements, but imports from the Irish Free State into the United Kingdom are exempted from the Ottawa duties as long as duties are in force under the Irish Free State Special Duties Act). Moreover, in the agreements with Canada, the Union of South Africa, and Southern Rhodesia, the United Kingdom made arrangements to maintain for a period of 10 years the then-existing margin of preference (2s.0.5d. per pound) on Empire over foreign unmanufactured tobacco.

In connection with the Ottawa Agreements or in line with the policy of protection to British agriculture expressed therein, the United Kingdom has imposed import quotas on beef, veal, mutton and lamb, bacon and hams, pork, processed milk, eggs, potatoes, and oats, usually with exemption to

Empire products, or with preferential treatment to Empire products in the few instances in which quota limitations have been applicable thereto. It may be noted that the new or enhanced margins of tariff preference accorded Empire products by the United Kingdom in the Ottawa Agreements were accomplished by raising the duties on a wide range of competitive products from foreign countries or imposing new duties on foreign products theretofore duty free, rather than through reducing any of the then-existing preferential rates on Empire products.

Influence on British Trade

An analysis of the foreign trade statistics of the United Kingdom indicates that British imperial preference, together with other factors, has had a definite influence in increasing the share of imports furnished by the remainder of the Empire, while the total share from non-Empire sources has declined, especially since 1931, during which period there has been a consistent drop each successive year. In 1913, when British imperial preference did not exist, imports into the United Kingdom from non-Empire sources amounted to 75.1 percent of the total, but in 1920, a few months after preference had been reinstituted, the foreign share declined to 71 percent and remained around that level until 1932, when it declined to 64.6 percent and to 60.8 percent in 1936 after the Ottawa Agreements had been in effect for 4 years. This development, excluding the abnormal World War trade movement, is shown by the table on the following page.

Other factors besides imperial preference have, of course, contributed to this shift from foreign to Empire sources in respect to United Kingdom imports, such as increasing agricultural production in the Dominions and colonies, the creditor position of the United Kingdom as a result of capital investments in other parts of the Empire, and, since September 1931, the currency depreciation in the United Kingdom and currency depreciation before, during, or after 1931 in the respective Dominions. Export subsidies or other forms of bounty payments on a wide range of agricultural products since 1931 in the Union of South Africa and in Australia (some were in effect prior to 1931) also have been a factor, but they would not have been so effective without the aid of British imperial preference. Another factor, but of far less importance than imperial preference, has been the marketing schemes authorized by the Marketing Act of 1933, covering several United Kingdom farm products, or other aids to British agriculture.

Increased tariff protection, together with the preference (duty-free entry of Empire products) adopted by the United Kingdom at the close of 1931 and early in 1932 through the Import Duties Act of that year, accounts, no doubt, for most of the striking increase for 1932 over 1931 in the Empire share of the United Kingdom's total imports, namely from 28.7 to 35.4 percent, which under the added influence of the Ottawa Agreements and other factors has further grown to 37.6 percent in

1935 and 39.2 percent in 1936. Not all of this gain in the Empire share has been due to a diversion of imports from foreign countries to Empire sources. It represents in part a decline from the former volume of dutiable foreign products imported because domestic production, both agricultural and industrial, within the United Kingdom was able to supply a larger share of the British market requirements. Imports from Empire sources would likewise have been affected adversely by this circumstance, however, had they not enjoyed the advantage of imperial preference (duty-free entry). In cases where import quotas have curtailed certain imports from foreign sources, diversion to Empire products has no doubt usually resulted.

Table 2. Imports into the United Kingdom, by value, selected years, 1913-1936

Year	Total	From foreign countries		From Empire countries a/		From Dominions b/ (excluding Irish Free State), India, and Rhodesia	
		Amount	Share of total	Amount	Share of total	Amount	Share of total
	1000 pounds sterling	1000 pounds sterling	Percent	1000 pounds sterling	Percent	1000 pounds sterling	Percent
1913 c/d/	768,735	577,219	75.1	191,516	24.9	150,782	19.6
1920 c/..	e/1,932,649	e/1,372,712	71.0	e/ 559,937	29.0	f/ 373,065	19.3
1922 c/..	1,003,099	685,330	68.3	317,769	31.7	234,361	23.4
1924.....	1,277,439	889,566	69.6	387,873	30.4	271,262	21.2
1926.....	1,241,361	865,205	69.7	376,156	30.3	250,752	20.2
1928.....	1,195,598	832,013	69.6	363,585	30.4	251,671	21.0
1930.....	1,043,975	739,945	70.9	304,030	29.1	204,579	19.6
1931.....	861,253	613,836	71.3	247,417	28.7	169,424	19.7
1932.....	701,670	453,533	64.6	248,137	35.4	177,702	25.3
1933.....	675,016	425,879	63.1	249,137	36.9	188,139	27.9
1934.....	731,414	460,129	62.9	271,285	37.1	200,378	27.4
1935.....	756,040	471,482	62.4	284,558	37.6	209,619	27.7
1936.....	848,936	516,356	60.8	332,580	39.2	247,800	29.2

Compiled from Statistical Abstract for the United Kingdom, 1935. The figures for 1936 are from The Economist (London), issue of May 1, 1937. The par value of the pound sterling in 1913 was $4.8665; since 1920, its average annual exchange value has ranged between $3.51 and $5.04.

a/ Irish Free State trade included from 1924; that of Palestine and Transjordan from 1922. Imports from Egypt included in the 1922 figures; for other years included under foreign countries. b/ Canada, Australia, Union of South Africa, New Zealand, and Newfoundland. c/ Prior to 1924, the figures relate to the trade of the British Isles as a whole. d/ For certain countries figures for 1913 are not strictly comparable with those for subsequent years on account of the reconstitution of boundaries under the peace treaties. e/ Figure taken from Trade of the United Kingdom, 1922, vol. 1. f/ Figure compiled from Trade of the United Kingdom, 1922, vol. 4.

Changes in the distribution of United Kingdom imports under the general regime of protection and British imperial preference inaugurated in 1932 (and in part near the close of 1931) may be seen in more detail from table 3 showing the percentage distribution of imports according to Empire source and the 10 leading foreign countries of supply during 1929, 1931, and 1933-1936. Canada's share shows the largest proportionate gain since 1931, with substantial gains registered by Australia, British India, New Zealand, and, to a less extent, the Union of South Africa. The share of the Irish Free State, on the other hand, has declined heavily because of the tariff conflict with the United Kingdom. The proportionate share of the 10 leading foreign suppliers, with the exception of Finland and Sweden, has declined since 1931, in some cases quite substantially.

Table 3. Percentage distribution, by value, of imports into the United Kingdom, 1929, 1931, and 1933-1936 a/

Country	1929	1931	1933	1934	1935	1936
	Percent	Percent	Percent	Percent	Percent	Percent
Canada	3.9	3.9	7.0	7.1	7.5	8.9
Australia	4.1	5.1	7.0	6.7	6.9	7.2
British India	4.4	3.6	5.1	5.4	5.0	6.1
New Zealand	3.7	4.2	5.1	5.1	4.9	5.1
Irish Free State	3.9	4.5	2.8	2.4	2.6	2.4
British Malaya b/	.9	.5	.6	1.3	1.1	.8
Union of South Africa c/	1.3	1.1	1.5	1.2	1.5	1.6
Ceylon and Dependencies	1.1	1.2	1.2	1.5	1.2	1.2
British West Indies	.4	.5	.9	.9	1.0	1.0
Channel Islands	.3	.4	.7	.6	.6	.5
Others	2.9	2.1	3.6	3.5	4.0	4.4
Total Empire countries c/	26.9	27.1	35.5	35.7	36.3	39.2
United States d/	16.6	12.2	11.4	11.3	11.6	11.0
Argentina	7.2	6.3	6.5	6.7	6.0	5.3
Denmark (incl. Faroe Islands)	5.0	5.8	5.6	4.8	4.5	3.9
Germany	6.0	7.8	4.6	4.4	4.1	3.9
Netherlands	3.7	4.4	2.9	3.0	3.2	3.0
France	4.7	4.9	2.9	2.7	2.9	3.0
Sweden	2.3	2.2	2.5	2.6	2.4	2.4
Soviet Union (Russia)	2.1	3.6	2.4	2.2	2.8	2.2
Finland	1.3	1.5	2.0	2.2	2.1	2.1
Belgium (excl. Luxemburg)	3.9	4.1	2.0	2.1	2.2	2.2
Others	20.3	20.1	21.7	22.3	21.9	21.8
Total foreign countries	73.1	72.9	64.5	64.3	63.7	60.8
Total all countries	100.0	100.0	100.0	100.0	100.0	100.0

Compiled by United States Tariff Commission, from Annual Statement of the Trade of the United Kingdom, vol. 4, 1931 and 1935; and 1936 from "The Times Trade and Engineering", March 1937, p. 56.

a/ 1929-1935 based on imports for consumption, 1936 on general imports.

b/ Including Straits Settlements and Dependencies and Federated and Unfederated Malay States. c/ Excluding rough diamonds. d/ Including Alaska.

A part of this development represents a distinct diversion from foreign to Empire sources of supply between 1931 and 1935 for several important farm commodities, with the exception of leaf tobacco, produced in substantial quantities in the Dominions or other parts of the Empire. This shift may be seen from the chart on the opposite page applying to imports into the United Kingdom of selected agricultural products.

With regard to outgoing trade, the development of exports from the United Kingdom to foreign countries in relation to exports to other parts of the British Empire since 1913 (omitting the abnormal World War movement of trade) may be seen from table 4.

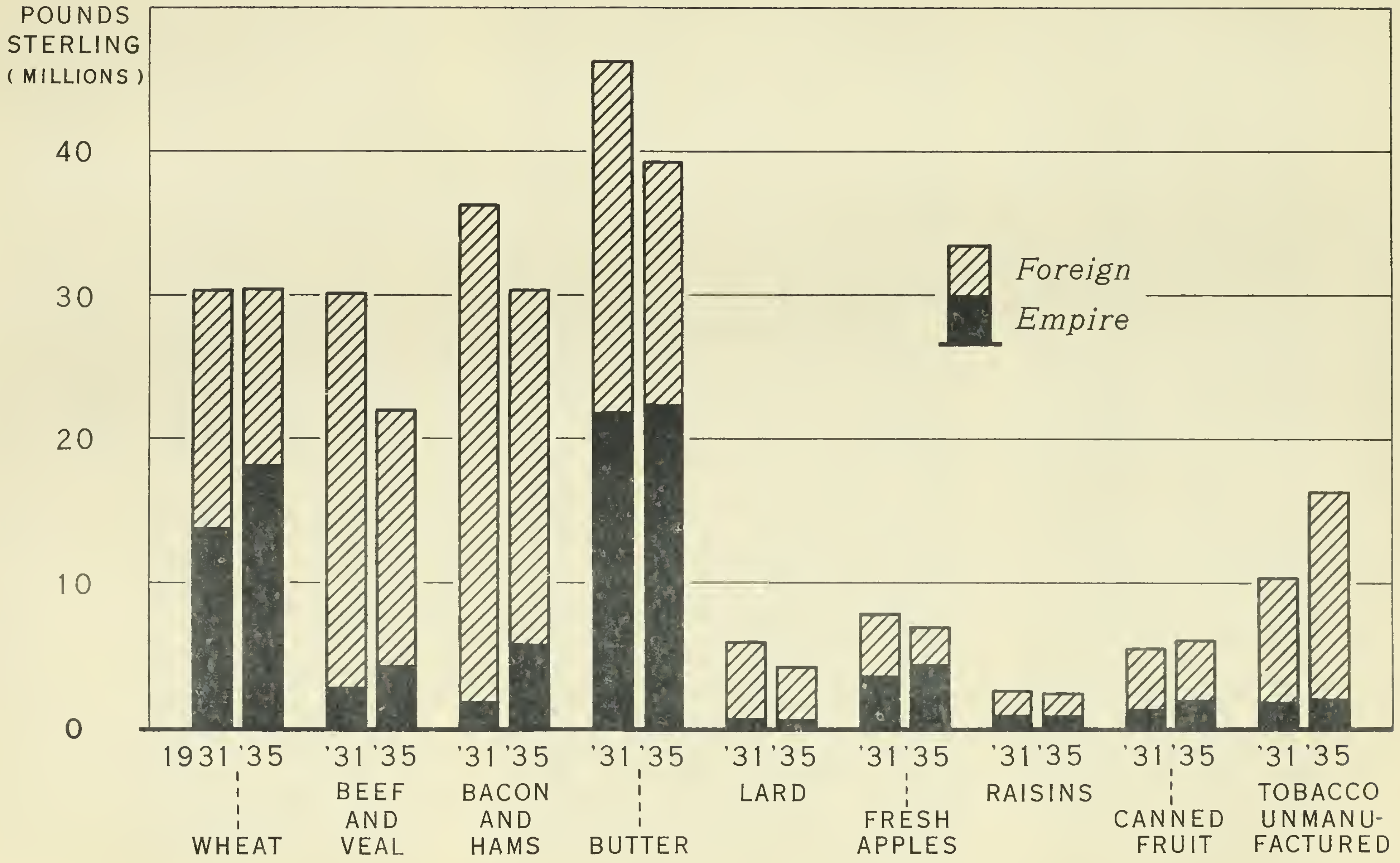
Table 4. Exports from the United Kingdom, by value, selected years, 1913-1936

Year	Total	To Foreign countries		To Empire countries a/		To Dominions, (excluding Irish Free State), India, and Rhodesia	
		Amount	Share of total	Amount	Share of total	Amount	Share of total
	1000 pounds sterling	1000 pounds sterling	Per cent	1000 pounds sterling	Per cent	1000 pounds sterling	Per cent
1913 b/c/	525,253	329,942	62.8	195,311	37.2	163,282	31.1
1920 b/	d/1,334,469	d/ 832,999	62.4	d/ 501,470	37.6	e/ 364,630	27.3
1922 b/	719,507	433,938	60.3	285,569	39.7	219,252	30.5
1924	800,967	463,503	57.9	337,464	42.1	232,956	29.1
1926	653,047	336,196	51.5	316,851	48.5	224,532	34.4
1928	723,579	395,911	54.7	327,668	45.3	227,967	31.5
1930	570,755	322,410	56.5	248,345	43.5	162,231	28.4
1931	390,622	219,949	56.3	170,673	43.7	103,454	26.5
1932	365,024	199,512	54.7	165,512	45.3	101,031	27.7
1933	367,909	204,392	55.6	163,517	44.4	107,460	29.2
1934	395,985	210,412	53.1	185,573	46.9	127,367	32.2
1935	425,834	221,490	52.0	204,344	48.0	139,116	32.7
1936	440,719	223,792	50.8	216,927	49.2	146,544	33.3

Compiled from Statistical Abstract for the United Kingdom, 1935. Figures for 1936 from The Economist (London), May 1, 1937. The par value of the pound sterling in 1913 was $4.8665; since 1920, the average annual exchange value has ranged between $3.51 and $5.04.

a/ Irish Free State trade included from 1924; that of Palestine and Transjordan included from 1922. Exports to Egypt included in 1922 figures, and for other years included under foreign countries. b/ Prior to 1924, figures relate to the trade of the British Isles as a whole. c/ For certain countries, figures for 1913 are not strictly comparable with those for subsequent years on account of the reconstitution of boundaries under the peace treaties. d/ From Trade of the United Kingdom, 1922, vol. 1. e/ From Trade of the United Kingdom, 1922, vol. 4.

UNITED KINGDOM IMPORTS: SELECTED AGRICULTURAL PRODUCTS, 1931 AND 1935



U. S. DEPARTMENT OF AGRICULTURE

NEG. 32515 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 1

Since 1931, the proportionate share of the Dominions (excluding the Irish Free State), India, and Southern Rhodesia in the United Kingdom's total exports has increased considerably more than the share of the remainder of the Empire. This has been due primarily to the wide range of tariff preferences extended to United Kingdom goods by increasing the margin of pre-Ottawa preferences, increasing the import duties or establishing new duties on non-British goods, or combining these methods. Among other contributing factors may be mentioned the gain in commodity prices (for both agricultural products and industrial raw materials) since the low levels of 1932, which has greatly increased the purchasing power of the Dominions, although this applies in varying degree to certain other parts of the Empire.

Inasmuch as British imperial preference affects only indirectly British exports to other parts of the Empire, comment exclusively on United Kingdom exports is limited herein. As indicative of the proportionate gains, the official trade statistics for 1932 and 1935 show that imports from the United Kingdom into British India 2/ increased in value from 48,800,000 to 52,200,000 rupees; into Australia 3/, from 17,000,000 to 30,800,000 pounds; into New Zealand, from 12,900,000 to 18,500,000 pounds; and into the Union of South Africa, from 14,300,000 to 34,400,000 pounds, a striking gain due in large measure to South Africa's gold boom. Canada's imports from the United Kingdom increased from $106,372,000 (Canadian) in the trade year 1931-32 4/ to $117,875,000 in 1935-36, and the following outstanding example of trade diversion attributable to the Ottawa Agreements is cited: Imports of cotton piece goods, yarn, and thread from the United Kingdom into Canada were valued at $4,207,000 in the trade year 1931-32 and $7,068,000 in 1935-36, while corresponding imports of United States goods in the same groups fell from $4,870,000 to $1,997,000 - an almost exact balance.5/

Significance to United States Agriculture

The United Kingdom is the outstanding foreign outlet for United States agricultural exports, as almost 35 percent are destined to that market. Excluding unmanufactured cotton, however, the United Kingdom takes around 50 percent. The bulk of these agricultural exports to the United Kingdom comprises cotton, tobacco, lard, other pork products, fresh fruits (chiefly apples, pears, oranges, and grapefruit), canned fruits (chiefly pears,peaches, fruits for salad, and apricots), dried fruits (raisins and prunes), and barley. All of the products named, except cotton and a few pork items, which are duty free regardless of origin, enjoy British imperial preference; that is, imports from Empire

---

2/ Year beginning April 1, 1932 and 1935.
3/ Year ending June 30, 1932 and 1935.
4/ April 1 to March 31, inclusive.
5/ The Economist (London), issue of May 1, 1937, page 267.

sources (other than the Irish Free State) are duty free (except unmanufactured tobacco), while corresponding non-Empire products are dutiable. This applies also to wheat (including wheat flour), formerly an important item in the United States export trade with the United Kingdom.

Changes in the United States share in the import trade of the United Kingdom in certain agricultural products of special interest to the United States, since the adoption in 1932 of greatly enlarged British imperial preference, may be seen from table 5.

Table 5. United States share of general imports into the United Kingdom of selected products subject to British imperial preference, 1929, 1931, and 1933-1935

Commodity	Percentage of total imports				
	1929	1931	1933	1934	1935
	Percent	Percent	Percent	Percent	Percent
Wheat	19.9	9.4	a/	0.1	0.6
Barley	36.3	21.1	17.4	15.5	13.9
Milk, condensed, whole, unsweetened b/	39.0	34.2	1.5	2.6	1.2
Fruit, fresh or raw:					
Apples	53.7	46.5	18.3	22.1	31.8
Pears	20.1	39.7	42.8	45.4	40.3
Oranges	10.6	8.1	4.7	4.8	11.1
Grapefruit	77.4	63.6	44.5	34.8	24.9
Fruit, dried or otherwise preserved without sugar:					
Plums, prunes, or prunellos	83.2	91.1	82.8	81.5	89.6
Raisins	24.4	36.7	16.5	23.6	26.5
Fruit, preserved in sugar, tinned or bottled, in syrup:					
Pears	c/	d/ 90.8	d/ 75.1	70.8	e/
Peaches	c/	d/ 82.8	d/ 78.8	64.0	e/
Apricots	c/	f/ 84.2	f/ 72.4	51.1	e/
Whole rice, husked or cleaned	28.7	22.3	11.1	8.5	9.8
Wheat flour g/	26.1	19.3	1.2	1.4	1.1
Lard g/	86.2	81.0	86.7	92.4	38.2

Compiled by the United States Tariff Commission, except percentages for lard, wheat flour, and fruit preserved in sugar. a/ Less than one-tenth of 1 percent. b/ Prior to 1932 this item was listed as "Milk, condensed, not sweetened." In 1932 it was broken down into two groups, "whole" and "separated or skimmed." There were no imports of the latter group in these years. c/ Prior to 1930 included in "Fruit preserved in sugar - tinned or bottled in syrup - other sorts." d/ Figures for 1931-1933 are for "tinned in thin syrup." e/ Not available separately. f/ For 1931-1933, statistics on "tinned in thin syrup" and "bottled in thin syrup" are available. g/ Dutiable under the Import Duties Act, 1932. Other products listed are dutiable under the Ottawa Agreements Act, 1932.

The drastic decline in imports of United States wheat and wheat flour has resulted primarily from the fact that prices of these products since the summer of 1933 until recent months, have been generally above the world market price (with the exception of certain grades of Pacific Northwest soft wheat) rather than from the British tariff on non-Empire wheat, equivalent to about 6 cents per bushel. The severe drought of 1934, the short wheat crop of 1935, and the drought again in 1936 greatly reduced the domestic supply in the United States, but current indications are that this country will have a sizable export surplus from the 1937 wheat crop. The heavy decline in United States rice imported into the United Kingdom since 1931 may be attributed largely to British imperial preference (Empire rice is duty free) but in part to comparatively high prices for better-grade United States rice. Imports into the United Kingdom of United States barley show less decline than those of wheat and rice, because of the dependence of British brewers on non-Empire sources for a substantial share of their malting barley requirements.

The heavy drop in the United States share of total fresh apple imports into the United Kingdom in 1933 compared with 1931 - from 46.5 to 18.3 percent - was due in large part to British imperial preference. A substantial part of this loss, however, was recovered in 1935 when United States apples accounted for 31.8 percent of the United Kingdom's total apple imports. In fresh pears, the proportionate share of the United States has gained moderately. The decline in the case of grapefruit, on the other hand, has been very heavy, namely from 63.6 percent in 1931 to 24.9 percent in 1935. Exports from Palestine have been largely responsible for this decline, although the Palestine fruit does not enjoy preferential treatment in the British market. In oranges, also, the non-preference Palestine fruit, added to the usual large imports from Spain, have contributed materially to the smaller United States percentage. While the share of United States fresh oranges in 1935 was higher than in 1931, the share for 1933 and 1934 (as well as for 1936) was approximately 40 percent less than in 1931.

In the case of United States canned fruits - pears, peaches, and apricots - the 15-percent ad-valorem rate (from which Empire canned fruits are exempted), plus the higher sugar duties on sugar content than applies to the sugar content of Empire canned fruits, accounts in large measure for the considerable decline in the proportionate share in United Kingdom imports since 1931. The heavy gain in canned fruit imports from Empire sources since the enlarged imperial preference in 1932 is particularly noteworthy. Australian exports of canned pears to the United Kingdom increased by about 150 percent between 1931 and 1935, while Canadian shipments increased more than fivefold. Shipments of Australian canned peaches to the United Kingdom have doubled. Likewise, exports of Australian canned apricots have more than doubled during the same period, and shipments from South Africa to the United Kingdom have increased nearly sevenfold.

With respect to the proportionate share of United States dried fruits, United Kingdom imports of dried prunes have been maintained fairly well notwithstanding the additional duty imposed on this product under the Ottawa Agreements Act. The proportionate share by value, however, had declined more than by quantity, owing to the generally lower unit value of American prunes since 1934 in comparison with Empire prunes (from Australia and South Africa). It may be noted that the share of United States raisins dropped by more than one-half from 1931 to 1933 (36.7 to 16.5 percent) but has since regained a substantial part of the loss.

Imports of United States lard into the United Kingdom after 1931 increased substantially in quantity until 1934, notwithstanding the 10-percent ad-valorem duty imposed in 1932 under the Import Duties Act. The heavy drop in 1935 was caused almost solely by the shortage of supplies in the United States as an aftermath of the severe drought of 1934, and not by the moderate import duty or any unusual shift to Empire sources. The 1936 drought resulted in a further drop in the United States share. Larger United States supplies may be expected to show up in larger exports to the United Kingdom. There is some doubt, however, as to the recovery of all of the market formerly enjoyed by United States lard in the United Kingdom in view of the fact that the use of lard substitutes has increased substantially during the period of reduced lard imports.

The principal Empire sources that account for a substantial share of the shift between 1931 and 1935 in purchases of certain United States agricultural products (with the exception of canned fruits, which have already been discussed) are shown by table 6.

The gain in Canada's proportionate share of total wheat imports into the United Kingdom in 1935, compared with 1931, of over 50 percent and in wheat flour by almost 50 percent does not represent a deliberate shift from United States wheat and wheat flour. It was due chiefly to short supplies and high prices of the United States products. The proportionate share of Australia for both wheat and wheat flour actually declined. British imperial preference accounts in part for the heavy decline in the United States share of total rice imports into the United Kingdom; namely, from 22.3 percent in 1931 to 9.8 percent in 1935. The Empire share (represented chiefly by British India) at the same time increased from 31.8 to 75.5 percent.

In the case of both barley and condensed milk, the drop in the proportionate share of the United States was almost balanced by corresponding increases in the Canadian share. In hams and shoulders, the Canadian share of the trade began to increase soon after the inauguration of the British import quota system for non-Empire pork, late in 1932. The United States exports of 1935 were reduced further by the 1934 drought. In that year imports from Canada were more than equal to the 1931-1935 decline in volume of imports from the United States.

As already noted, the drastic decline in the United States share of lard imports into the United Kingdom was not due to any unusual shift to Empire sources (Canada's share declined from 8.2 to 8.1, and the total share for other Empire sources increased only from 2.5 to 7.1 percent), but resulted chiefly from the abnormal shortage in the lard supply in the United States following the severe droughts of 1934 and 1936.

Table 6. Share of United States and Empire countries in general imports into the United Kingdom of selected products subject to British imperial preference, 1931 and 1935

Commodity	United States		Canada		Australia		Other Empire countries	
	1931	1935	1931	1935	1931	1935	1931	1935
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Wheat	9.4	0.6	22.7	36.4	19.5	17.5	0.4	0.2
Barley	21.1	13.9	6.6	13.6	2.1	2.6	0.1	1.4
Whole rice, husked or cleaned	22.3	19.8	a/	a/	0.2	10.4	b/31.8	b/75.5
Wheat flour c/	19.3	1.1	36.2	53.0	23.8	22.6	0.4	d/
Hams (and shoulders)	72.3	61.9	8.7	28.2	a/	a/	2.2	3.0
Lard c/	81.0	38.2	8.2	8.1	a/	a/	2.5	e/ 7.1
Condensed milk, whole, unsweetened.	34.2	1.2	5.1	32.6	a/	a/	2.1	14.4
Fresh apples	46.5	31.8	23.3	38.2	13.6	21.1	f/ 4.6	f/ 4.4
Raisins	36.7	26.5	a/	a/	30.2	24.9	4.9	5.3
Dried prunes, prunellos, etc.....	91.1	89.6	a/	a/	2.6	5.0	g/ 4.8	g/ 4.6

a/ If any, included in "Other Empire countries." b/ British India, chief supplier. c/ Dutiable under the Import Duties Act, 1932, instead of the Ottawa Agreements Act, 1932. d/ Less than 0.05 percent. e/ Chiefly the Irish Free State and Hong Kong. f/ Almost exclusively New Zealand. g/ Exclusively the Union of South Africa and Southwest Africa Territory.

Under the advantage of imperial preference, Canada has become the outstanding competitor of the United States in the fresh apple import trade of the United Kingdom, followed by Australia and New Zealand. The combined share of all three Dominions rose from approximately 41 percent in 1931 to 63 percent in 1935, while the proportionate share of apples from the United States declined from 46.5 to 31.8 percent. Imposition of the specific duty under the Ottawa Agreements Act, 1932, equivalent to 20 percent or more, ad valorem, (while Empire apples remain duty free) coincided with the heavy decline in imports of United States apples in 1933 and 1934. Some of the loss was recovered in 1935.

With regard to United Kingdom imports of raisins, the decline in the United States share has merely been heavier than that of Empire countries, while the share of Asiatic Turkey has increased substantially.

Australia, it may be noted, is the chief Empire source of supply. Empire raisins are duty free, whereas the specific duty on United States raisins was equivalent to 38.6 percent ad valorem on 1935 imports, a rather high duty for an article of food as much in demand as raisins.

United States dried prunes supply the great bulk of the United Kingdom's requirements for this item, as indicated by the foregoing tables showing our share in the British market in 1929, 1931, and 1933-1935. Australia and South Africa supply almost all of the remainder. Under the impact of increased duties under the Ottawa Agreements Act, 1932, the proportionate share of United States prunes declined from 91.1 percent in 1931 to 82.8 and 81.5 percent in 1933 and 1934, respectively, but rose to 89.6 percent in 1935. If figures for 1931 and 1935 are compared, it may be noted that Australia's share increased from 2.6 to 5.0 percent and that of South Africa declined slightly. The combined specific duty on United States prunes in 1935 was 33 percent ad valorem, while Empire prunes are duty free. (Incidentally, the British statistical classification for dried prunes also includes a relatively small amount of dried apricot imports).

British imperial preference in favor of Empire-grown tobacco became effective September 1, 1919, after unmanufactured tobacco from all sources had long been subject to the same rates of import duty. On July 1, 1925, the margin of preference was increased from one-sixth to one-fourth the full duty, or 2s.0.5d. per pound (equivalent to about 50 cents per pound) and stabilized at that amount for a period of 10 years. Tobacco import duties in the United Kingdom are extremely high - the rate on unstripped leaf (containing 10 percent or more of moisture) in 1919 was around $2.00 per pound and the present rate (since 1931) is equivalent to $2.36 per pound.

The margin of preference (about 50 cents per pound since 1925) in favor of Empire-grown tobacco has resulted in a considerable diversion from foreign to Empire sources in the imports into the United Kingdom of unmanufactured tobacco since 1919. In that year, Empire-grown tobacco accounted for 3.9 percent, United States tobacco 87.0 percent, and other foreign-grown tobacco 9.1 percent of total unmanufactured tobacco imports, by quantity. For 1936, the respective percentages were 19.4, 78.8, and only 1.8. In other words, the Empire share rose from 3.9 percent in 1919 to 19.4 percent in 1936, or from 14,000,000 pounds in 1919 (7,500,000 only in 1921) to 52,800,000 pounds in 1936.

The factors involved in the distinct shift, in varying degree according to commodity, from United States to Empire sources for imports between 1931 and 1935 are exceedingly complex. It is, therefore impossible to determine statistically the amount of diversion due exclusively to British imperial preference. The trend in this direction, however,

- - - - - - - -

has been unmistakable for several of our farm products, notably fresh apples, raisins, canned fruit (peaches, pears, and apricots), certain pork products, and rice. British imperial preference, in conjunction with the duties imposed on foreign products under the Import Duties Act, 1932, and the Ottawa Agreements Act later in the same year, has doubtless been the major factor in the diversion just mentioned.

- - - - - - - -

Future issues of "Foreign Agriculture" will contain comprehensive analyses of the influence of British imperial preference on United States tobacco, pork and pork products, fruits (fresh, dried, and canned), and cereals, respectively.

- - - - - - - -

Bibliography and Source Material

Colonial Tariff Policies. United States Tariff Commission, 1922.
Summary of Proceedings, Imperial Economic Conferences, 1923, 1926, and 1930, respectively. H. M. Stationery Office, London.
Dictionary of Tariff Information. United States Tariff Commission, 1924.
Survey of Overseas Markets. Committee on Industry and Trade, London, 1926.
Great Britain's Recent Trend toward Protectionism. Supplement to The Annals of the American Academy of Political and Social Science. Philadelphia, January 1928.
Tariff Preference in Great Britain and British Possessions. Senate Document No. 31, 71st Congress, 1st Session, 1929.
A Short History of Imperial Preference. By George C. Tryon, M.P. London, 1931.
A Study of Imperial Preference in the British Empire. By Consul John B. Ketcham, United States Department of State. September 1931.
Current Trends in Foreign Tariffs and Commercial Policy: Review of 1931. Trade Information Bulletin No. 790, United States Department of Commerce, 1932.
Imperial Economic Conference at Ottawa, 1932. Summary of Proceedings and Copies of Trade Agreements. London (Cmd. 4174).
The Ottawa Conference and American Agricultural Trade. Foreign Crops and Markets. September 19, 1932.
Ottawa Supplement, The Economist (London). October 22, 1932.
Ottawa Agreements Act, 1932 (22 & 23 Geo. 5. Ch. 53), London.
The Ottawa Conference. Foreign Policy Association report No. 21, December 21, 1932. New York, New York.
Foreign Tariffs and Commercial Policies during 1932. Trade information Bulletin No. 812, United States Department of Commerce, 1933.

World Trade Barriers in Relation to American Agriculture. Senate Document No. 70, 73d Congress, 1st Session, 1933.
Preliminary Survey of the Development and Present Extent of British Imperial Preference. United States Tariff Commission, August 1934. Special Appendix: Development of British Imperial Preference. May 1937.
Ottawa Section, The Economist (London). May 1, 1937.
Twenty-Seventh Report on Customs and Excise for the year ended 31st March 1936, London.
Customs and Excise Tariff of the United Kingdom. London, 1936.
British official foreign trade statistics.
Reports from the London Office, United States Department of Agriculture.

* * *

ARGENTINE CORN....

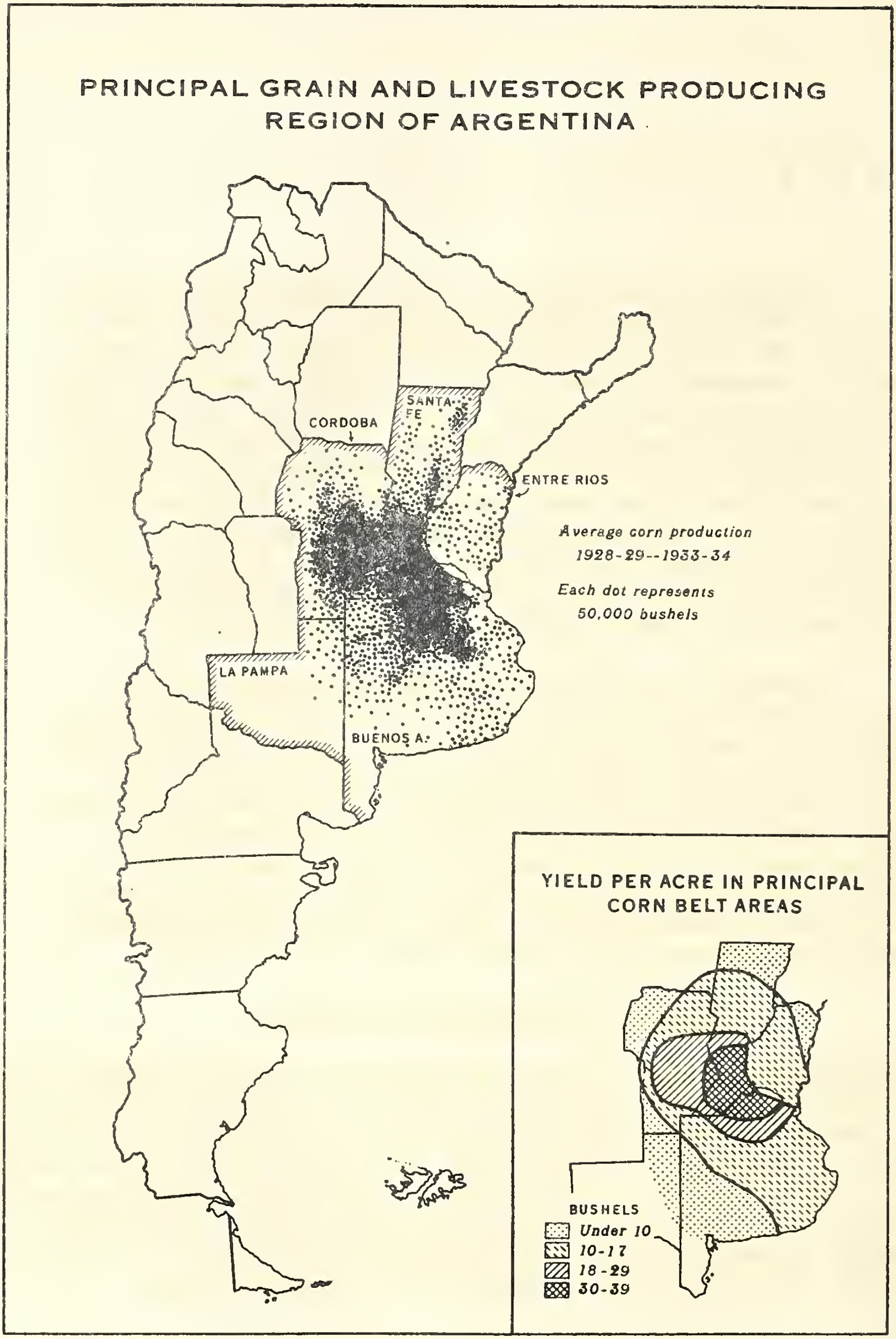
Argentina ranks second to the United States as the world's leading corn-producing country. For many years it has been the leading corn-exporting country. With a crop that has averaged around 325 million bushels annually during the past decade, some 250 million bushels, or more than 80 percent, has been shipped abroad. Nearly 75 percent of the corn that has entered into international trade during the past 10 years has come from Argentina. It is evident, therefore, that corn has become an important factor in the national economy of the country. In 7 out of the 10 years 1926-1935 the money value of corn exports approximated or exceeded that of wheat exports (not including flour).

Normally, the bulk of the Argentine corn crop is exported to Europe, but in recent years considerable quantities have been shipped to the United States to help offset the deficiency created by the droughts of 1934 and 1936. The total imports of Argentine corn into the United States during the year ended June 30, 1937, amounted to approximately 69 million bushels. This compares with a total of 27 million bushels imported from Argentina during the 12 months ended June 30, 1936, and 12 million bushels during the corresponding period ended June 30, 1935.

Trend of Production and Acreage

The harvested area of corn in Argentina remained rather constant at around 8 million acres from 1917 to 1924. During the past 15 years, however, there has been a steady and continuous increase in the acreage and volume of production. Since 1924, the total crop area has increased about 11 million acres, or 33 percent. Most of this expansion occurred from 1924 to 1928 during a period of relatively high wheat prices. The corn acreage since 1924 has almost doubled (see table 1). Some of this increase is associated with a decline in the wheat acreage.

By Paul O. Nyhus, Agricultural Attaché, Buenos Aires, and Charles L. Luedtke, formerly Assistant Agricultural Commissioner, Buenos Aires.


PRINCIPAL GRAIN AND LIVESTOCK PRODUCING REGION OF ARGENTINA
SANTA FE
CORDOBA
ENTRE RIOS
Average corn production 1928-29--1933-34
Each dot represents 50,000 bushels
LA PAMPA
BUENOS A.
YIELD PER ACRE IN PRINCIPAL CORN BELT AREAS
BUSHELS
Under 10
10-17
18-29
30-39

U. S. DEPARTMENT OF AGRICULTURE NEG. 32595 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 1

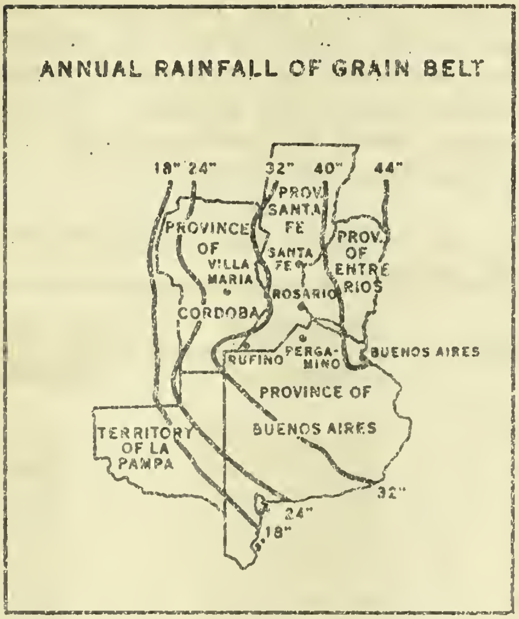


FIGURE 2

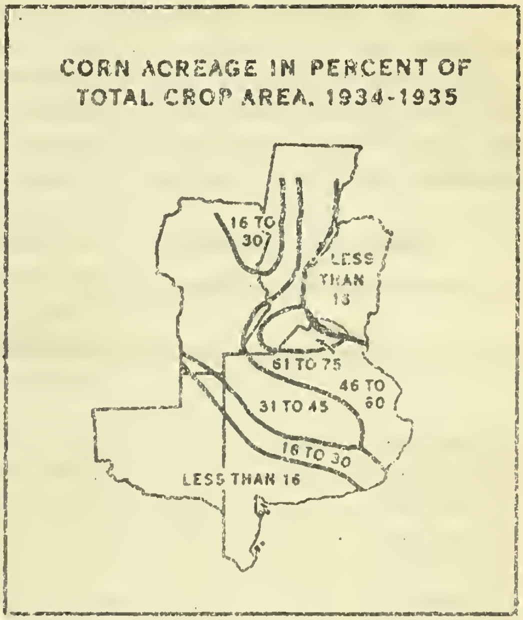


FIGURE 3

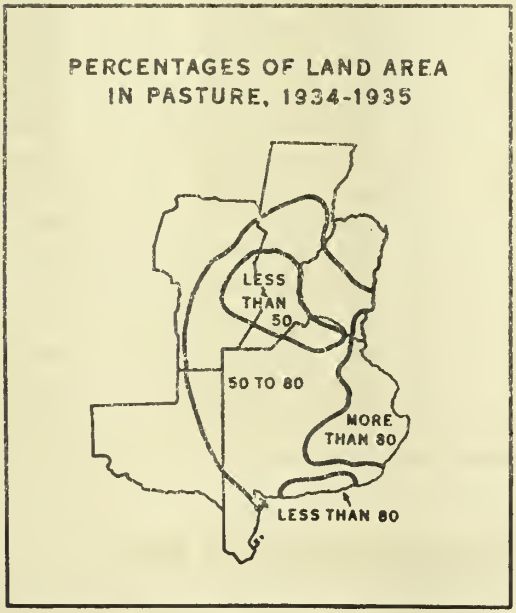


FIGURE 4

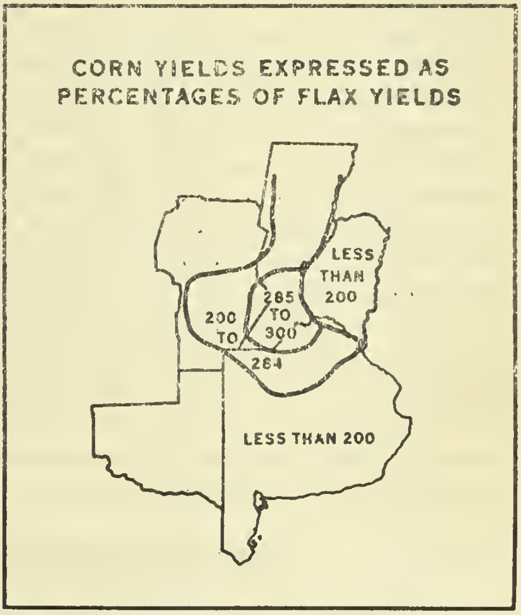


FIGURE 5

The increase in corn acreage since 1924 has been about equally divided among the regions with the highest corn yields, the regions of second highest corn yields, and the balance of the grain belt. In other words, about two-thirds of the expansion has occurred in regions of strictly commercial production and one-third in regions of low yields. In many districts of the latter, the use of corn to clean wheat and pasture land is a supplementary if not a primary purpose of planting the crop.

Table 1. Acreage, production, and yield of corn in Argentina, 1912-13 to 1936-37

Year	Acreage harvested	Production	Yield per acre
	Acres	Bushels	Bushels
1912-13	9,464,000	196,642,000	20.8
1913-14	10,260,000	263,135,000	25.6
1914-15	10,386,000	325,178,000	31.3
1915-16	9,928,000	161,133,000	16.2
1916-17	4,719,000	58,839,000	12.5
1917-18	8,715,000	170,660,000	19.6
1918-19	8,252,000	224,245,000	27.2
1919-20	8,184,000	258,686,000	31.6
1920-21	8,090,000	230,420,000	28.5
1921-22	7,343,000	176,171,000	24.0
1922-23	7,653,000	176,103,000	23.0
1923-24	8,489,000	276,756,000	32.6
1924-25	7,195,000	186,298,000	25.9
1925-26	9,634,000	321,635,000	33.4
1926-27	9,060,000	320,848,000	35.4
1927-28	8,999,000	311,597,000	34.6
1928-29	9,026,000	252,408,000	28.0
1929-30	10,428,000	280,617,000	26.9
1930-31	11,577,000	419,661,000	36.2
1931-32	9,518,000	299,329,000	31.4
1932-33	9,373,000	267,761,000	28.6
1933-34	10,161,000	256,913,000	25.3
1934-35	14,091,000	451,943,000	32.1
1935-36	12,689,000	397,615,000	31.3
1936-37	12,065,000	360,014,000	29.8

Compiled from official sources.

Area and Location of the Argentine Corn Belt

Although corn is grown to a greater or less extent throughout the entire Republic, except in the southern territories of Patagonia, the principal corn-producing region is the central area of the grain belt.

This region also is the principal alfalfa and livestock-producing region of the country. It is approximately 575 miles long, from north to south, and 360 miles wide (see figure 1). It embraces practically the entire area of the Provinces of Buenos Aires, Santa Fé, Córdoba, Entre Ríos, and the eastern part of the Territory of La Pampa, and is about equal to the combined area of the States of Illinois, Iowa, and Missouri. Except in the Province of Entre Ríos, where the land is for the most part gently rolling, the Argentine grain belt is uniformly level.

Table 2. Acreage, production and average yield per acre of corn in the Argentine corn belt, by Provinces, 1931-32 to 1935-36

Year	Acreage harvested	Production	Yield per acre
	1,000 acres	1,000 bushels	Bushels
Buenos Aires -			
1931-32.............	3,245	92,468	28.5
1932-33.............	3,960	113,778	28.7
1933-34.............	3,684	96,544	26.2
1934-35.............	4,793	151,724	31.7
1935-36.............	4,124	145,536	35.3
Santa Fé -			
1931-32.............	3,021	116,732	38.6
1932-33.............	2,738	96,976	35.4
1933-34.............	3,378	97,757	28.9
1934-35.............	3,951	147,629	37.4
1935-36.............	4,043	141,704	35.0
Córdoba -			
1931-32.............	2,120	71,028	33.5
1932-33.............	1,737	41,564	23.9
1933-34.............	2,174	49,342	22.7
1934-35.............	3,676	125,308	34.1
1935-36.............	3,092	77,825	25.2
Entre Ríos -			
1931-32.............	352	5,534	15.7
1932-33.............	193	1,951	10.1
1933-34.............	183	2,222	12.1
1934-35.............	338	6,021	17.8
1935-36.............	264	3,665	13.9
La Pampa -			
1931-32.............	73	413	5.7
1932-33.............	58	483	8.3
1933-34.............	25	205	8.2
1934-35.............	482	6,545	13.6
1935-36.............	169	1,807	10.7

From official statistics of the Argentine Ministry of Agriculture.

The bulk of the Argentine corn crop, however, is produced in a relatively small area comprising the northern part of the Province of Buenos Aires and the southern part of the Province of Santa Fé. During the 10 years 1926-27 to 1935-36, approximately 70 percent of the Argentine crop was produced in these two Provinces and most of it in the relatively small area in which the highest average yields occur. The combined production of the three principal Provinces, Buenos Aires, Santa Fé, and Córdoba, during the past 10 years has averaged 297,619,000 bushels, or 91 percent of the Argentine crop.

Beyond the principal grain belt, to the west and southwest, the rainfall declines sharply until, in the semiarid country, production of corn is confined to irrigated sections for purely local needs. The region north and northwest of the main corn belt is essentially subtropical, devoted chiefly to the production of citrus fruits, tobacco, sugar cane, and cotton. Corn production in this region does not constitute an important part of the farming enterprise, except in the cotton belt, where the growing of corn is encouraged as a rotation crop with cotton.

The Place of Corn in Argentine Agriculture

Argentine agriculture, and the corn enterprise in particular, differs from the agriculture and the corn enterprise of the United States in a number of ways. The extensive landholdings under a single ownership make possible large-scale operations under a system of tenancy and sharecropping. Approximately two-thirds of the farms in the grain and flaxseed belt of Argentina are so operated. Livestock production has been the dominant enterprise of the country, and the production of grain and that of livestock are still considered as separate and distinct enterprises.

Another significant aspect is that corn, like wheat and flax, is essentially a cash crop, and the bulk of the crop (about 80 percent) is shipped abroad. In terms of tonnage, it exceeds that of wheat in some years and in value is almost equal to wheat. There is relatively little domestic consumption of corn in Argentina, either for feeding to livestock or for human use. The bulk of the crop consists of the flinty varieties in contrast with dent corn, which is the chief variety produced in the United States.

In the heart of the corn belt, continuous planting of corn on the same land for from 10 to 20 years is general, and to date the corn enterprise has been relatively unaffected by the necessity to conserve soil fertility or to rotate crops. Outside the main corn belt in the wheat and pasture areas, however, corn is being used to an increasing extent in cleaning the land and in providing forage for cattle even if it fails as a grain crop.

Table 3. Argentine corn production and exports, 1926-27 to 1935-36

Crop year April - March	Production	Exports during following season	Percentage of production exported
	1,000 bushels	1,000 bushels	Percent
1926-27	320,848	289,885	90.3
1927-28	311,597	246,240	79.0
1928-29	252,408	209,532	83.0
1929-30	280,617	206,421	73.6
1930-31	419,661	387,759	92.4
1931-32	299,329	250,712	83.8
1932-33	267,761	209,378	78.2
1933-34	256,913	209,148	81.4
1934-35	451,943	311,882	69.0
1935-36	397,615	352,316	88.6
Average	325,869	267,327	82.0

Bureau of Rural Economy and Statistics, Argentine Ministry of Agriculture.

Farm organization and tenancy

One of the distinctive features of the farm organization is the large-scale operation and management made possible by the extensive land-holdings under a single ownership. The present system is in fact but a transition from cattle and sheep grazing to tillage, which is accomplished by dividing parts of estates into tracts to be worked by tenants and sharecroppers for the production of grain crops. Two-thirds of the farms in the corn and flaxseed belt are operated by tenants and sharecroppers.

There is a diversity of grain production on some tenant farms, but mixed farming is rather the exception. Some landowners, however, contend that mixed farming, in spite of the additional administration involved, is a necessary development in the future on the present grazing ranches located in the grain belt.

The labor supply on ranches is usually not large enough to permit, to any considerable extent, the relatively intensive operations of crop farming; and the size of the tenant grain farms, the instability of their tenure, and administrative complications tend to curtail the raising of livestock on tenant farms. Livestock raising and grain farming, therefore, are considered two separate and distinct farm enterprises.

Share tenancy prevails at the present time in the corn belt, 30 to 35 percent being the usual share. Cash rents vary according to the value of the land, but for the central part of the corn belt rents at the present time are equivalent to from $3 to $5 per acre on land valued at from $50 to $70 per acre. Argentine law provides a minimum lease period of 5 years. Landowners supply only the land, and the tenants build their own adobe houses if the previous tenants have not already built them.

The average amount of land operated by tenant farmers in the heart of the corn belt ranges from 175 to 250 acres, varying with the quality of the land, the size of the tenant's family, and the extent to which other crops are grown. Because of the large amount of land which each tenant operates, the investment in horses and machinery represents from $1,500 to $5,000. Cash and share tenants maintain a close relationship with a manager or central administration office located on the larger tracts of land. In most parts of the Argentine it is customary to allow share tenants 10 percent of the total acreage as pasture for horses, but on the fertile land in the heart of the corn belt this is frequently reduced to 5 percent. In the main corn belt, the tenant's lease usually provides that the corn be placed in the "troje" or native corncrib, but in the Province of Córdoba many of the leases provide for delivery of the shelled corn to the local railway station.

Many of the tenants and sharecroppers in the grain belt are Italian immigrants, or their descendants, whose standard of living is low compared with that of tenant farmers in the grain belt of the United States. They build their own adobe houses and many of them remain on the same tract of land from 10 to 25 years. Many prosper and some acquire pieces of land for themselves, although continuing to operate as tenant farmers; but they show little evidence of wealth or improved living standards. The fact that they do not own their land and must build their own houses undoubtedly deters many from constructing more acceptable dwellings. In accordance with Argentine law, they can recover investments on improvements up to 10 percent of the value of the land upon the expiration or termination of their leases, but in practice they make only the most elementary provisions for living conditions (see figure 9). Even with tenants who remain on the same tract of land almost as permanent fixtures, living standards do not seem to rise greatly.

Typical of the administration of large tracts of land for grain production and some of the conditions of farm tenancy are the following data relating to two pieces of land, one near Pergamino in the center of the corn belt and the other in the Province of Córdoba somewhat beyond the recognized corn belt.

The Pergamino tract consists of 35,000 acres, on which there are 180 tenant farmers. Some tenants have been on the tract for over 25 years. The amount of land operated by each tenant varies from 62 to 462 acres, with an average of about 200 acres. The share rent is

35 percent, but 40 of the tenants pay cash rent varying from $3 to $5 per acre. The land is value at about $60 per acre, and corn yields during the past 15 years have ranged from 32 to 59 bushels per acre. Five percent of the total acreage given out on share rent is allowed as pasture, chiefly for horses, and, in addition, each tenant is allowed one sow for each 25 acres. The flax and wheat acreage comprise only 10 percent of the crop area.

The tract in Córdoba consists of 37,500 acres. There are 100 tenants, nearly all of them Italians, or an average of 375 acres per tenant. The share rent here is 28 percent. Ten percent of the acreage is allowed as pasture, and in addition to the 22,500 acres of land in corn, there are 7,500 acres devoted to flaxseed and 1,250 acres to wheat. Corn here has averaged 27 bushels per acre.

Competition of other crops and livestock with corn

Even in the districts of highest corn yields, flax offers considerable competition to the corn enterprise. Away from the main corn belt, as yields of corn decline sharply and progressively, the competition of flax and wheat strengthens and the tendency is to displace corn with these crops. These changes in degree of competition are quite sharp, being associated with the sharp changes in yields of corn. The cropping programs or the relationships of corn, flax, and wheat acreages are distinctly different in regions not far apart. In general, flax does relatively better than corn or wheat to the east and north of the main corn belt and wheat relatively better than corn or flax to the west and south.

An examination of the relationship of corn yields to flax yields by counties and districts reveals great differences. These data, which express average corn yields as percentages of flax yields, are shown by districts in figure 5. There is quite a close connection between changes in these yield relationships and changes in the cropping program from district to district. In the limited area of highest yields of corn - and also of flax - the average yields of corn are treble (285 to 300 percent) those of flax. Average yields of 30 to 39 bushels of corn compare with 11 to 13 bushels of flax. Here is the heaviest concentration of corn acreage, with corn occupying 55 to 75 percent of the crop area in 1934-35 as compared with 15 to 20 percent for flax. Immediately north of this district in the Province of Buenos Aires, yields of corn relative to flax are not as favorable, and at the expense of the corn acreage the flax acreage increases to 40 and 50 percent in many counties, and these districts become part of the principal flax-producing region of the Argentine. In Entre Ríos, the leading flax-producing Province, corn and flax yields are quite similar - 9 to 11 bushels per acre. Here flax escapes the hazard of locust damage, and moisture conditions are more favorable than for corn. The corn acreage is 10 to 15 percent of the crop acreage and that of flax 40 to 70 percent.

In the central area, which includes the region of highest corn yields, these are roughly twice the yields of wheat (190 to 240 percent). Here corn occupied 50 to 75 percent of the crop area in 1934-35 and wheat only a small percentage. On the western and southern borders of this region, however, wheat was grown on as much as 30 percent of the area, where under less favorable rainfall conditions the tendency to shift to wheat is already evident. Proceeding out of this district into the second district, corn yields decline sharply and wheat yields only moderately, if at all, with the result that on the edges of this area corn yields only equal those of wheat.

In the San Francisco wheat region, on the Córdoba-Santa Fé boundary, the average yields of corn and wheat are similar. There the wheat acreage is three or four times the corn acreage, but in most of the counties in the Province of Córdoba the wheat and corn acreages are about equal. Under the scantier rainfall to the southwest, which ultimately becomes too scant even for wheat, wheat outyields corn. As a result, corn acreage declines from 40 percent of the crop area on the northern border of the district in the Province of Buenos Aires to 5 percent and less in counties to the extreme south. This is a part of the main wheat zone of the Argentine, and the position of wheat in the cropping program improves progressively southward and absorbs as much as 75 percent of the crop area in southern counties. When the low yields of corn in relation to the yields of wheat are considered, the percentages of corn in many of these districts appear to be exceptionally high. The explanation undoubtedly lies in the extent to which corn is planted to clean both wheat and pasture land, more or less regardless of yields. This is not a commercial corn district, and yields of corn in themselves could not justify the present acreage in many of these counties.

The effect of the competition of both flax and wheat, as well as of the minor crops of oats, barley, and rye, on the place of corn in the cropping program is summarized in figure 3, showing the percentages by districts of the total crop area in corn in 1934-35. It will be noted that in the central district corn occupied 60 to 75 percent of the total crop area and that the percentage progressively and sharply declined away from this area.

The impression may have been created in discussing the percentages of corn and other crops that obtained in 1934-35 that the cropping system in each locality is fixed or rather definitely established. No cropping program, of course, is of that character; and, although the yield relationships will probably not change substantially, the cropping program in the Argentine, due to its almost exclusively cash nature, is especially responsive to changes in the relative prices of the three major crops within the rather restricted limits of reasonable adaptability and interchangeability of these crops. The price relationships preceding the plantings in the 1934-35 crop year were slightly in favor of corn.

Of more basic importance than relative prices, however, are possible changes in the cropping program brought about by improved and more intensive practices and changing economics of production. Because of the large-scale operations and the comparative newness of agriculture in Argentina, the adaptability and possibilities of various crops in many regions have not been completely tested.

Influence of Soil and Climate

Climate and rainfall

One of the characteristic features of the Argentine grain belt, considering its size, is the great variation in the amount and seasonal distribution of rainfall. The annual rainfall ranges from more than 40 inches in Entre Ríos, on the eastern edge, to 18 inches on the western fringe of the corn belt, a distance of 350 miles. It is difficult to find a similar change in a corresponding distance in the Great Plains region of the United States, except possibly in the State of Kansas. Because of differences in temperature between the northern and southern limits of the corn belt (between 30 and 39 degrees), as well as in the distance from the ocean, the corn crop occasionally suffers from excessively high temperatures in the north and in general lacks sufficient hot weather in the extreme south.

Soil fertility

No soil surveys have been made in the Argentine, but some generalizations for the grain belt are possible. The central district, in which the corn acreage is concentrated, consists of a fertile black silt soil about 2 feet in depth overlying a brown subsoil about 6 feet in depth. It is recognized as one of the best soil types in the world. To the north, soils contain somewhat more clay and are less friable but nevertheless very fertile and productive. To the west and southwest in the Province of Córdoba the soils are lighter both in texture and in color - in some places almost sandy - and lack the fertility to permit almost continuous cropping. To the south, in the Province of Buenos Aires, some light clay soils are encountered. In general, the soils become more sandy westward, and near the boundary of the Territory of La Pampa they are incapable of heavy cropping. There are some heavy, poorly drained soils in the eastern part of the Province of Buenos Aires and, in the south, some black prairie soils, as well as some sandy soils impaired in many places by the nearness to the surface of the underlying limestone rock.

Planting season and cultural practices

The planting of corn in Argentina usually begins in September, although in some sections of the country and in some years planting may begin as early as the middle of August. Planting may continue as late as the middle of January, but it is not considered safe to plant later than the middle of December. Most of the corn in the main corn belt is planted in October and during the first half of November.

The familiar checkrowed cornfields, so common in the Corn Belt of the United States, are never seen in Argentina, where corn is planted in straight rows and at a much heavier rate than in the United States. The usual distance between rows is 27 inches, and hills are about 10 inches apart in the row. Three-row planters and cultivators, horse-drawn, are in general use, but there are also some five-row planters and cultivators, tractor-drawn. In the main part of the corn belt, two cultivations are generally used, and cultural practices are considered good. In some districts outside the main corn belt, however, the tendency is to neglect the crop after it is planted, and a considerable acreage is planted without receiving any cultivation whatever.

Varieties Produced

Corn grown in Argentina is almost entirely of the hard flinty varieties with medium to small kernels. Most of the corn grown in Argentina is yellow, though some white and red varieties are grown, the latter developing after a few crops into yellow corn. The following are the principal types:

Peidmontese (Piamontés) - two local selections of an Italian variety.

Yellow 8-row and Yellow 12- or 14-row - both more drought resistant than the Piedmontese.

Cuarentón - from the Spanish word "cuarenta", meaning "forty." The name is applied to indicate the number of days required to begin the formation of ears. This variety is 10 or 15 days earlier than those named above and of excellent quality.

Long White Flint - earlier and gaining popularity in the western part of the Province of Buenos Aires.

Minor varieties include:

Amargo, so-called bitter corn - developed as a variety less susceptible to locust damage. It is planted in the Province of Entre Ríos. Although locusts will eat other foliage before attacking this variety, it yields very poorly.

Pisingallo - a small-kerneled, small-eared, white, flint corn, originally introduced from tropical regions. Some of it has been sold as popcorn for shipment to the United States, but it is understood that it does not possess the high quality of American popcorn.

- - - - - -

Some of the large American corn, both white and yellow, commonly called "horse tooth", was introduced into the Argentine some years ago but has never become popular. The green ears of this variety are often sold in Buenos Aires for sweet corn.

About 1910 one of the leading hog breeders introduced some American dent corn into Argentina, and many farmers who feed hogs are growing small quantities of this variety. It has never become popular in the Argentine, and 90 percent or more of the total production is still of the flint varieties. Many explanations have been offered for this preponderance of flint corn. The most logical, perhaps, is that flint varieties are best suited to the peculiar climatic conditions in the Argentine and the requirements of European markets, which take the bulk of the Argentine crop.

Writing in 1910, R. A. Lastra pointed out that the yellow (flint) varieties are the most desirable for planting in Argentina, because the export trade "whether from force of habit or for other reasons prefers the yellow corn." 1/

Since corn for many years has been grown in Argentina primarily for export to Europe, the quality and condition of the corn on arrival there has no doubt contributed largely to establishing a preference for flint corn. Being exceedingly hard, flint corn does not absorb moisture to the same degree as the softer dent corn; and, after it is dried out, it carries better, not only during the voyage to overseas countries but also while in storage in Argentina and abroad. The hard, flinty varieties are also less susceptible to weevil and other insect damage, which is an important factor in a country like the Argentine with little or no severe cold temperatures during the winter season.

Experiments made in the Argentine some years ago demonstrated that under favorable weather conditions splendid harvests could be obtained from American dent corn. As long as Argentina exports the bulk of the crop to foreign markets, however, growers will no doubt find it to their interest to keep on producing flint corn.

Corn Yields

High yields and marginal production areas

The relative adaptability of the different sections of the grain belt to corn growing is reflected in the average yields obtained in the various districts. Average yields (1928-29 to 1933-34) by districts are shown in figure 1. It will be noted that in the center of this region

---

1/ "El Cultivo del Trigo y del Maiz", Biblioteca Rural Argentina, 1910.

the average yields range from 30 to 39 bushels per acre. Yields of 50 to 60 bushels are frequently obtained on many farms, and 100-bushel yields have been reported. This district is about 144 miles wide at its greatest width and 156 miles from north to south. The concentration of corn production in this highest-yielding and relatively small district is indicated by the fact that, on an average, this district produces 45 percent of the entire crop of the country. Encircling this central district on three sides and extending westward across the Province of Córdoba is a district with average yields varying from 18 to 29 bushels per acre. Beyond this is a district with yields of 10 to 17 bushels and, farther, one with less than 10 bushels per acre. The area of corn in the latter two districts is small in relation to the crop area, and a considerable part of the acreage is planted as a means of cleaning wheat and pasture land, somewhat regardless of yields.

The sharpness with which yields decline away from the central high-yielding area is noteworthy and indicates the relatively small part of the grain belt that is especially adapted to corn growing. In the vicinity of Pergamino in the main corn belt the average yield is 38 bushels per acre. Fifty miles southwest in the county of Junin the average yield is 28 bushels, and in the adjoining county of Lincoln, farther to the southwest and only 90 miles from Pergamino, the yield declines to 17 bushels, or to less than half the yield at Pergamino. Similarly, whereas yields at Rosario average 34 bushels, to the west 125 miles they decline to 29 bushels and at Villa María, 125 miles farther west, to 20 bushels. High average yields, exceeding 31 bushels per acre, are maintained for 75 miles due north from Rosario, but fall off sharply to 18 bushels just beyond this distance immediately north of the city of Santa Fé. To the east in the Province of Entre Ríos, close to the main corn belt, crop yields are incredibly low - 10 to 12 bushels.

Differences in soils and rainfall cause these great differences in yields in various parts of the grain belt. For rainfall stations in a much larger region than that which is included in the two districts of highest yields, the average rainfall data for a 4-month period during the growing season (October-January) show only slight differences. Because of a number of other factors, however - less annual rainfall, less dependability of the rainfall in the critical, hot months of December and January, less humidity and greater evaporation, and, finally, sandier or shallower soils of less water-holding capacity - the injury from drought increases steadily to the southwest and south from the center of the corn belt. Everyone familiar with corn growing in the Argentine speaks of the danger outside the central region of "losing" the crop from drought, and personal investigation of corn yields for 3 years and the published statistics of abandoned acreage confirm this hazard. Differences in the dependability of the December-January rainfall are indicated by the fact that a station (Rufino) located 125 miles southwest of Pergamino and considered somewhat unsafe for corn failed to receive an arbitrary minimum of 6 inches for the combined rainfall in these 2 months in 10 years out of 24, whereas Pergamino failed to receive this amount only 3 years during the same period.

The limited extent of the deep, black, prairie soil, which characterizes the heart of the corn belt and on which there are instances of continuous corn cropping for 25 years, further explains the lower yields in the adjoining districts to the west and south. Immediately to the south a heavy soil type is encountered, but soils become lighter and sandier to the west and southwest in the Provinces of Córdoba and Buenos Aires. In the latter region they are too light to stand the almost continuous grain cropping under present methods of grain farming in the Argentine. The lighter character of the soil and the lower water-holding capacity intensify the inherent defect of scant rainfall.

Locust damage is a menace to some extent in the whole corn belt but especially so in the northern part of the Province of Santa Fé and in the Province of Entre Ríos. The locusts come from the north, and these regions are almost sure to be more damaged than the country to the south. In these northern districts the frequent damage from, and constant hazard of, locusts has unquestionably modified the cropping system and the extent to which corn is planted.

The composite effect of drought and locust damage is reflected in the percentage of the corn acreage which each year is lost or is not harvested for grain. Because of the extensive character of farm practices and of the low prices in the Argentine, many fields are not picked that in the United States would undoubtedly be harvested. During the past 10 years the unharvested acreage has ranged from 16 to 37 percent of the planted acreage, and the average of the past 5 years is 32 percent. The percentages in recent years are higher than formerly, a reflection no doubt of a considerable extension of the corn acreage into parts of the Province of Buenos Aires not especially adapted to corn growing but where corn is planted in order to prepare land for wheat and pasture and where the crop can be utilized for roughage even if it is not worth picking. A further explanation may be the increasing practice in the Province of Santa Fé of planting after the flax harvest a short-season variety of corn as a second crop, which frequently fails. Apart from explaining differences in yields, the high percentage of abandonment over wide areas clearly indicates the unadaptability of the crop in these regions. It may be of interest to note that around Pergamino the average abandonment does not exceed 5 percent but that 125 miles to the southwest it exceeds 30 percent.

Comparison of yields in Argentina and the United States

A comparison of the corn yields in Argentina with those in the United States indicates that the variation in yields obtained in the various sections of the Argentine corn belt and the concentration of relatively high yields within a limited area is characteristic also of the Corn Belt of the United States. Out of 34 counties in Iowa, extending through the heart of the Corn Belt, from the Mississippi River on the east to the Missouri River on the west, approximately 63 percent of the counties showed an average yield of from 40 to 49 bushels per acre during the 6 years from 1928 to 1933. Twenty-five percent of the counties showed an average yield of from 30 to 39 bushels per acre and approximately 6 percent a yield of 50 bushels or more per acre. Only 6.5 percent of the counties showed an average yield of less than 30 bushels per acre. 2/

The average yields in the three districts of Argentina making up this central belt were 41, 43.2, and 42.7 bushels over a 10-year period (1920-1929). The average yields for the two leading corn-producing States of the United States and of Argentina, are shown in table 4, which also gives the average yield for each country as a whole.

Table 4. Yield of corn per acre in Argentina and the United States, averages 1914-1918 to 1929-1933

Year	United States			Argentina		
	United States average	Iowa	Illinois	Argentine average	Buenos Aires	Santa Fé
	Bushels	Bushels	Bushels	Bushels	Bushels	Bushels
Average						
1914-1918...	25.6	37.3	35.3	21.4	22.9	23.3
1919-1923...	28.3	43.2	35.8	27.9	30.4	33.3
1924-1928...	25.7	37.5	36.0	31.4	31.0	37.2
1929-1933...	23.9	33.8	38.0	29.7	30.1	34.9

Harvesting and Marketing

In the main Argentine corn belt the crop is pretty well made by February 15, but husking does not get well under way until late in March. The crop is husked on the stalk (see figure 6), and calls for a large number of men, women, and children, who work on a piece-rate basis during the months of April, May, and June. The prevailing rates for husking in 1937 were equivalent to 6 or 7 cents per bushel of shelled corn. Good huskers can make the equivalent of $2.25 to $2.75 per day, without board. The corn is picked into a bag, which is dragged between the rows and later emptied

---

2/ Bulletin No. 71, "Average Yield per Acre of Corn, Oats, and Winter Wheat, 1890 to 1934, by Districts and Counties"; published by the Iowa Department of Agriculture, Des Moines, Iowa.

into large standard corn bags placed in the fields at convenient intervals. The large bags are then hauled to the farmstead, where the corn is placed in a native corncrib, or "troje" (see figure 7), a striking feature of the Argentine farmsteads throughout the corn belt. Stalks of sorghum and sunflower plants, grown especially for this purpose, and a few poles are bound with wire in building these circular cribs ranging from 20 to 27 feet in diameter. The corn is elevated into them in hoppers running on a cable and pulled by horses. The corncribs are occasionally covered with cornstalks or canvas, but more often are not.

The corn remains in the native cribs in the open for a period of from 2 to 8 months, depending upon the time of marketing, but usually after a month or two it dries out and conditions sufficiently to enable shelling and marketing with a moisture content of less than 15 percent. In some seasons, such as 1936, the corn goes into the native cribs unusually damp, and subsequent rainy weather makes it difficult to get it dry enough for shelling before July or August, but normally shelling is under way in early May and is at its height in June and July. It is only in occasional years that this difficulty is experienced; and, although there are artificial driers scattered throughout the corn belt, they are idle in most years. The present capacity of the artificial driers operated for about 6 months of the year does not exceed 10 percent of the crop.

Two of the large export firms maintain offices at the leading stations in the grain belt and buy directly from the farmers. More of the corn, however, is sold by the growers to grain buyers in the interior, most of whom are also the owners of large general stores. Practically all such stores have grain departments and, to a considerable extent, finance the tenant farmers. In the main corn belt, corn is generally purchased in the corncrib on a shelled basis, the purchaser assuming the expenses of shelling, sacking, cartage, and freight, for which due allowance is made. The shelling charge in 1937 was one-half cent per bushel. About half the shelling machines are owned by men living in the rural towns and the other half by grain buyers, who are thus equipped to shell corn that they buy on the ear in the crib from farmers.

Most of the grain at the present time is handled in sacks of about 135 pounds, although arrangements are being made to install special portable equipment in the present grain warehouses which will enable bulk handling. There is some bulk handling directly from shelling machines. The elevator storage capacity in the ports of Rosario, Santa Fé, and Buenos Aires is not large; and, if the export movement does not keep pace with the movement from the farm, stocks tend to accumulate at the railway stations in the country. Frequently the grain is piled up at railway stations under tarpaulin covers.

Hauling at present is mostly with team and wagon (see figure 8), but with the construction of highways and better roads generally throughout the grain belt of the Argentine, especially in the corn belt, the movement to the port cities by truck is increasing rapidly. Rosario, adjacent to the main corn belt, is the leading port for ocean vessels loading corn, and about three-fourths of the entire production of the country is within 125 miles of a port.

Corn in Relation to Livestock

Competition with livestock

The high percentage of the land area remaining in pasture in the grain belt as a whole, and even in the corn area, indicates the important, if not the leading, position occupied by the grazing and livestock industries. In most of the corn belt the pasture acreage is less than 50 percent; but, with the exception of this district and a wheat district in the southern part of the Province of Buenos Aires, the pasture acreage exceeds the crop acreage, with more than 80 percent of the land in pasture in some regions.

It is in the district of the highest corn yields that the pasture acreage and the grazing industry are smallest, but even here there are many counties where pastures occupy 40 to 45 percent of the land area. In the northwestern part of the Province of Buenos Aires and adjacent districts in the Provinces of Córdoba and Santa Fé and the Territory of La Pampa is found the center of the grazing industry. In this area also is centered the finishing of chiller steers on alfalfa for the British market. Here corn yields are not high because of lighter soil and lack of rain, alfalfa does well, and land values are lower than in the corn belt.

Grazing on pasture lands in the region of highest corn yields has given way substantially in the past 10 to 15 years, and it is believed that only great wealth and a strong financial position enable cattlemen to withstand the competition offered by grain farming. In some of the counties in this district the increase in corn acreage, largely at the expense of pasture land, during the past 11 years represents more than 25 percent of the land area. The current high prices of grain, combined with excellent yields in 1936-37, have intensified this competition, and the continued shift to corn and grain is freely predicted.

Composition and feeding value

Although laboratory tests of the chemical composition of Argentine flint and American dent corn have been made from time to time over a period of years, the results so far obtained do not warrant any definite or conclusive finding on their relative merits. An analysis made in 1914 of a limited number of samples of Argentine corn showed 5.52 percent of oil compared with 4.07 percent for American dent corn, while the protein content of the Argentine corn analyzed was 11.01 percent compared with 9.81 percent for American corn. 3/ On the other hand, analyses made prior to 1914 and subsequently by the United States Department of Agriculture have shown a greater oil and protein content for American dent corn than those obtained in 1914, and in some cases equal to or even superior to that of the Argentine corn. 4/ It should be pointed out, perhaps, that all flint varieties of corn, including those grown in the United States, have larger percentages of oil and protein than the dent variety has, and it is therefore not surprising to find that these chemical constituents in the Argentine flint corn grade higher in volume than those found in American dent corn.

In any event, the differences in the chemical composition of Argentine flint and American dent corn are so slight that they are not considered in determining the relative commercial value of the two varieties of corn in the United States. This depends a great deal upon the purpose for which the corn is to be used. Higher oil and protein content means less starch. Because of its hardness, flint corn normally has a lower moisture content; but any advantage that it may possess in this respect is probably offset, to some extent at least, by the additional time required (from 6 to 8 hours) in processing flint corn for manufacture into starch. Most of the Argentine corn imported into the United States is yellow in color and therefore not generally used for the manufacture of flakes, meal, or other food products, and not at all for brewers' grits. These objections, of course, do not apply to the white flint corn, of which the production in Argentina is rather limited although small quantities have been imported into the United States during the past year.

The bulk of the Argentine corn imported into the United States in the past has entered at the Pacific Coast ports and more recently those of New England, where it is used chiefly for feeding to poultry. Because of its hardness, there is little if any waste in the corn when it is cracked.

Official tests made by the United States Department of Agriculture to determine the relative feeding value of Argentine flint and American dent corn indicate little difference. The slightly greater

---

3/ "Argentine Corn", J.W.T. Duvel, Farmers' Bulletin No. 581, March 1914.

4/ "Methods for the Analysis of Cereals and Cereal Products", American Association of Cereal Chemists, 1928; and "An Investigation of the Composition of American Wheat and Corn", Bulletin No. 4, Division of Chemistry, 1884.

proportion of oil and protein contained in Argentine flint corn might indicate a slightly higher feeding value, but these additional elements are not considered to be sufficient in volume to make any practical difference. Any economic advantage that these additional chemical elements may possess is probably offset, in part if not wholly, by the very hardness so characteristic of the flint corn, which makes it less readily digestible by livestock than the softer dent corn. In fact, unless this corn is cracked or ground into mixed feed, many feeders find it advisable to steep it in water before feeding it to livestock.

Feeding of corn to livestock

Despite the large amount of corn produced in Argentina, little is fed to livestock. The rich alfalfa pastures of the grain belt provide excellent feed for livestock throughout the greater part of the year. Snow is unknown, and shelter for livestock is generally unnecessary. Only in years of drought or when the crop does not warrant picking is any appreciable amount of corn fed. The use of corn for silage is confined to a few dairy farms near the city of Buenos Aires. So-called winter feeding of cattle in Argentina (stocker and feeder cattle) is done almost entirely with alfalfa, either hay or pasture. The chief reason, perhaps, why fattening beef steers with corn has never become an established practice in Argentina is the high quality of finish obtained from alfalfa. Prices for corn-fed steers are not enough higher to compensate producers for the additional cost of feeding corn.

Corn versus hogs

Argentina has less than 4 million hogs and the total volume of corn fed to hogs is not an important factor in the corn enterprise. Since 1914 the number of hogs in the country has increased less than a million head. The Argentineans are not heavy pork eaters; and, although 75 percent of total slaughter is used domestically, the per-capita consumption of pork is only about 11 to 14 pounds annually 5/ compared with a normal per-capita consumption for the United States of around 59 pounds. 6/

As pointed out elsewhere, the production of corn and that of livestock are two separate enterprises in the Argentine. Those farmers who produce corn and who are in a position to raise hogs instead of selling their corn contend that the prevailing ratio between corn and hog prices has made it more profitable for them to sell their corn than to feed it to hogs. An examination of the reasons for this circumstance would no doubt lead to a consideration of such factors as quality, price, and the demands of export markets, which will be left for a subsequent article dealing with the Argentine hog and pork industry.

5/ 1931-1935; does not include farm consumption.

6/ Average 1924-1933, exclusive of lard.

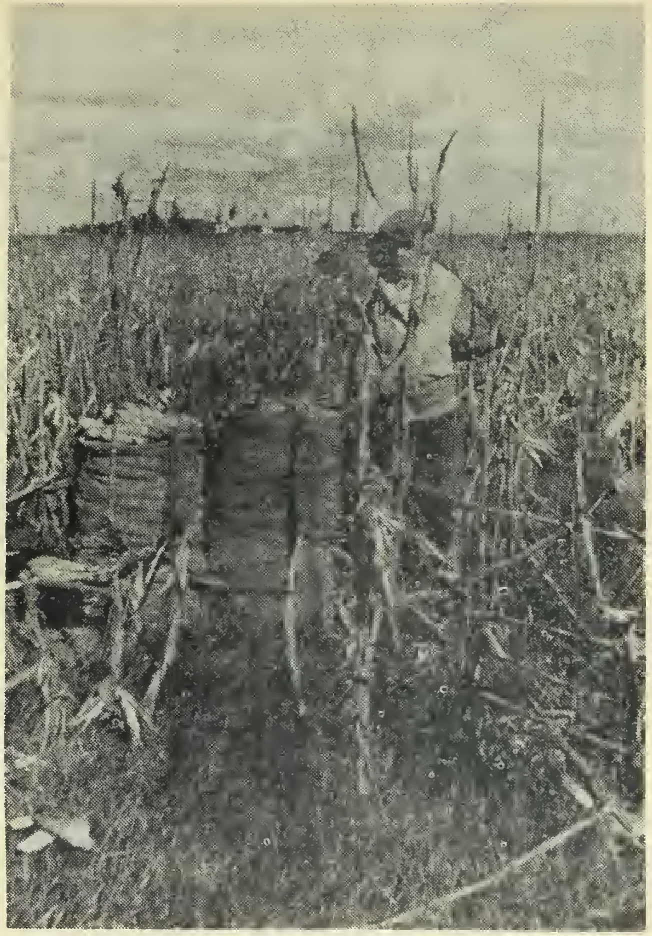


Figure 6 - Husking Corn

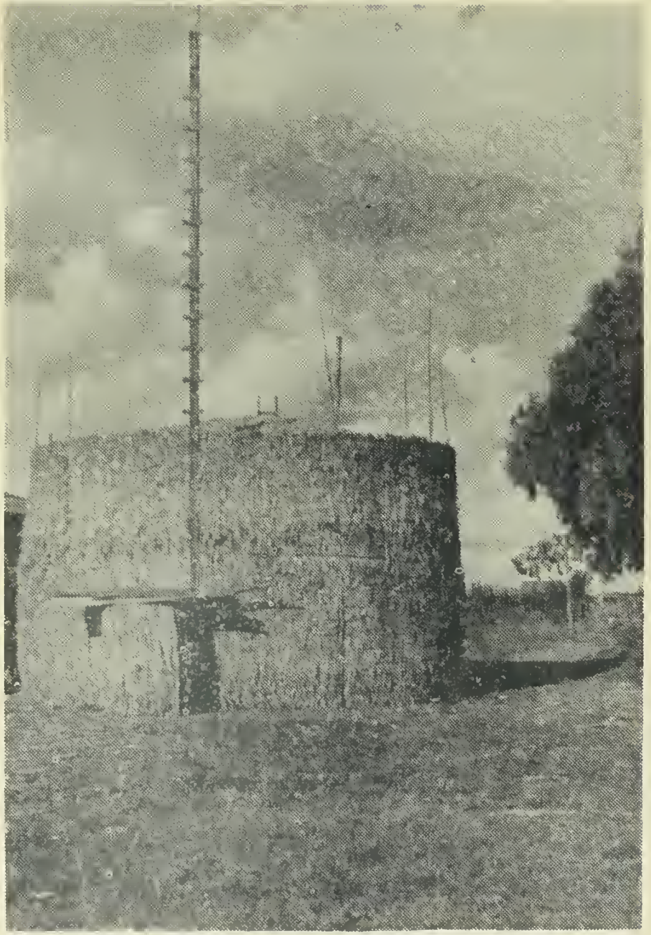


Figure 7 - An Argentine "troje" or native corn crib, uncovered.

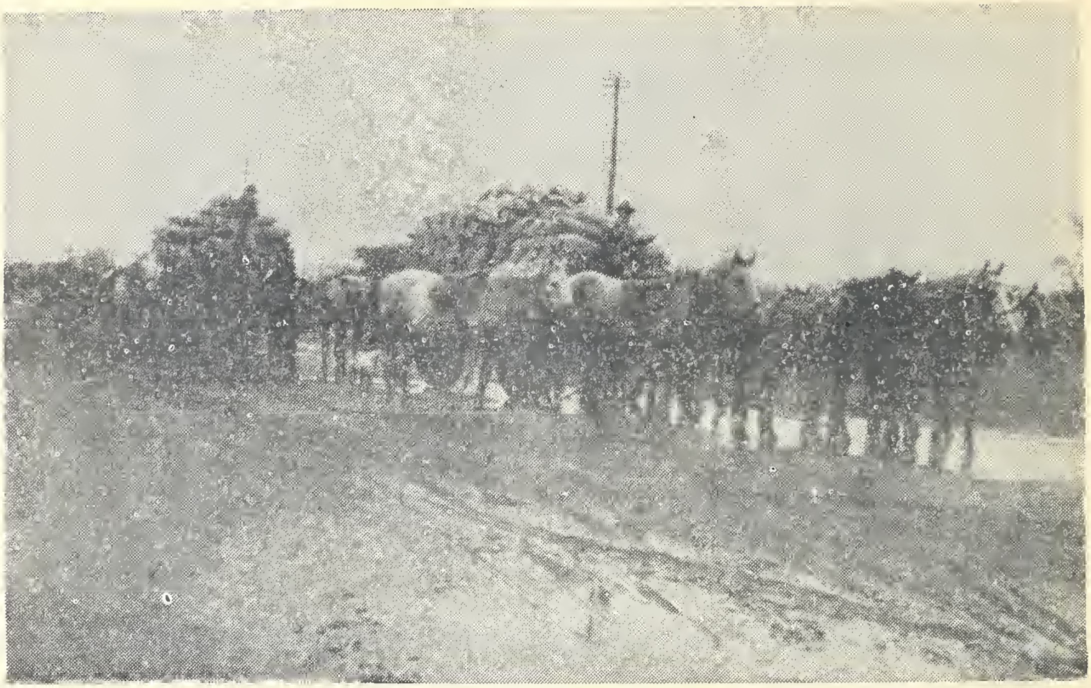


FIGURE 8 - HAULING CORN TO MARKET IN THE ARGENTINE CORN BELT. WITH IMPROVED ROADS NOW UNDER CONSTRUCTION THIS METHOD OF HAULING WILL SOON BE SUPERSEDED BY MOTOR TRUCKS.

FIGURE 9 - TYPICAL HOME OF A SHARE TENANT IN THE ARGENTINE CORN BELT.

Cost of Producing Corn

Endowed with a fertile soil, a favorable climate, and sufficient rainfall, together with the close proximity of cornland to the seaboard and the resulting short rail haul (average hauling distance to seaboard about 125 miles), the Argentine Republic is destined to remain for many years the world's chief source of supply for corn that can be produced at a relatively low cost compared with that of other exporting countries.

The average cost of production in the Argentine corn belt in 1933-34 was approximately 27 cents per bushel, delivered at the country shipping point, according to data published by the Argentine Ministry of Agriculture. The corresponding figure for the year 1932-33 was 26 cents per bushel. These figures represent the average cost for the main corn belt, comprising the Provinces of Buenos Aires, Santa Fé, Córdoba, and Entre Ríos, and the Territory of La Pampa. The minimum average for 1933-34 was 23.7 cents per bushel for the Province of Córdoba and the maximum 29.2 cents per bushel for the Territory of La Pampa. Approximately 20 percent of the crop was produced at an average cost of less than 25 cents per bushel.

Table 5. Average yield, cost of production, and percentage of corn production by Provinces, Argentine corn belt, 1933-34

Province and District	Yield per acre	Cost of production a/		Percentage of production in corn belt b/
		Per acre	Per bushel	
	Bushels	Dollars	Cents	Percent
Buenos Aires -				
Northern District......	39	11.23	28.7	
West Central District..	28	7.02	25.2	
South Central District.	28	6.81	24.4	
Average for Province.	36	9.94	27.8	39.2
Santa Fé -				
Central District.......	32	8.85	27.7	
Southern District......	39	10.97	28.1	
Average for Province.	38	10.65	28.1	39.7
Córdoba -				
Central District.......	37	8.59	23.4	
Southern District......	28	6.76	24.2	
Average for Province.	34	8.05	23.7	20.0
Entre Ríos -				
Eastern District.......	24	6.61	27.7	
Northern District......	24	5.74	24.0	
Average for Province.	24	6.11	25.6	1.0
La Pampa -				
Average for Territory	11	3.25	29.2	0.1
Average for corn belt....	36	9.63	27.0	100.0

"Annuario Agropecuario", 1935, Argentine Ministry of Agriculture.

a/ At current rate of exchange.

b/ Approximately 96 percent of total production in Argentina.

As previously mentioned, there is a great variation in the yields of the several territorial divisions comprising the corn belt. This in turn is reflected in the unit cost of production, which, all other things being equal, should be less in districts with high yields than in those with low yields. Paradoxical as it may seem, however, this does not appear to be borne out by the figures from the Argentine Ministry of Agriculture shown in table 5.

The largest single factor that enters into the cost of producing corn in Argentina, aside from the cost of labor and other miscellaneous out-of-pocket production costs, is the land rent. The other cost factors in the order of their importance are (1) cost of bags and hauling to country shipping point, 16.4 percent; (2) amortization of capital costs, 6.8 percent; and (3) interest, 4.3 percent (see table 6).

Table 6. Effect of various factors on the cost of production of corn in Argentina

Item	Cost of production a/		
	Per acre	Per bushel	Percentage of total
	Dollars	Cents	Percent
Land rent	2.64	7.42	27.5
Interest on operator's investment	.41	1.17	4.3
Depreciation	.65	1.83	6.8
Operating expense	4.34	12.16	45.0
Cost of bags and hauling to country shipping point	1.59	4.42	16.4
Total	9.63	27.00	100.0
Total excluding land rent b/	6.99	19.58	-

Editor's note: The above figures are based on a normal yield whose weighted average for the corn belt was 36 bushels per acre. There is some uncertainty as to what the author has included in "Operating expense." Attempt will be made to obtain further clarification of this point for those who desire it.

a/ At current rate of exchange.

b/ For the convenience of readers who may wish to consider the total cost exclusive of land rent, this separation has been made.

The total cost of production of the 1933-34 Argentine corn crop delivered at the ports is estimated at 34.74 cents per bushel by the Argentine Ministry of Agriculture. The several cost factors which make up this total are shown in table 7.

Table 7. Cost per bushel of Argentine corn delivered at ports a/

Province or Territory	Average cost delivered at country shipping point	Handling, etc. storage, and loss	Railway freight	Total cost
	Cents	Cents	Cents	Cents
Buenos Aires	27.8	1.4	6.3	35.5
Santa Fé....	28.1	1.5	4.8	34.4
Córdoba.....	23.7	1.5	8.4	33.6
Entre Ríos..	25.6	1.5	5.6	32.7
La Pampa....	29.2	1.4	10.3	40.9
Average for corn belt.	27.0	1.5	6.2	34.7

a/ At current rate of exchange.

In comparing the Argentine corn production costs, particularly the delivered cost at the country shipping point, with prevailing costs in the United States and elsewhere, it is well to keep in mind that in recent years the price of corn in Argentina has generally been lower than in the United States. In Argentina, also, the hauling of corn from the farm to the country shipping point as a general rule is done either by the buyer or by some commercial trucking firm. Such cost is deducted from the price which the farmer receives for his corn in the same manner as the railway freight and other costs that make up the difference between the market price and the price paid to the farmer.

On the other hand, most articles of domestic production in Argentina, including food products, are less expensive than they are in the United States. Lower living costs, combined with a relatively lower living standard, enable the average farm family in Argentina to subsist on less than the average family in the Corn Belt of the United States. Lower costs do not, of course, include those of farm implements and machinery, most of which are imported from the United States and which cost more in Argentina than they do in the United States. Radios, automobiles, trucks, household appliances, labor-saving devices, and other articles, imported wholly or in part from abroad, are also more costly in Argentina than in the United States. Most of these articles, however, play little or no part in the life of the average tenant farmer in the Argentine corn belt.

Outlook

The highest-yielding cornlands are concentrated in a relatively small area in the Provinces of Buenos Aires, Córdoba, and Santa Fé. Any expansion beyond the heart of the corn belt, therefore, would bring producers into marginal areas of low yields and a relatively higher unit cost of production and probably a lower quality of corn as well. It seems unlikely, therefore, that any further expansion in the corn area will extend beyond the general region of the present corn belt, although there is also the possibility of increasing the corn acreage in areas outside the corn belt where corn is frequently used to prepare the land for the production of other grains. Much of the corn acreage outside the corn belt, however, produces a grain crop only in favorable years.

As a result of the concentration of land in large estates, there is still a considerable area of good cropland not yet under tillage. Many of the estates, of course, were founded on the production of livestock; therefore, the future expansion of corn production in Argentina is closely allied with the future of the livestock industry, particularly beef production. The development of imperial preference on the part of the United Kingdom, which has been the largest single market for Argentine chilled beef, has tended to encourage the production of livestock and livestock products in Empire countries. Should this development continue, the Argentine livestock producer will probably be forced to reduce production of beef cattle, and large areas now devoted to alfalfa pastures may eventually be devoted to other crops. Since 40 to 45 percent of the land area in the heart of the corn belt is now devoted to pastures, it can be seen that the possibilities of expanding Argentine grain acreage are considerable. At the present time, there are nearly 10,500,000 acres of alfalfa pasture in the main corn belt as compared with 13,500,000 acres of corn.

The desirability of expanding corn acreage would, of course, depend largely on the ability of European markets to absorb a larger volume. The advantage of Argentina as a low-cost producing country points to the probability of some further expansion of the corn area. Another possibility, of course, is the utilization of larger quantities of corn for fattening hogs; but under existing conditions it appears probable that it would be easier to find foreign markets for corn as grain than for pork and lard.

It should also be kept in mind that much of the Argentine corn belt is well adapted to the production of wheat and flax. An appreciable part of any increase in the Argentine grain acreage would probably be devoted to wheat and flax, especially when prices received for these crops are favorable in relation to corn.

. . . .

RECENT DEVELOPMENTS
IN
FOREIGN AGRICULTURAL POLICY

- - - - - - -

BRITISH AGRICULTURAL POLICY

In a recent statement on Agricultural Policy to the House of Commons, the British Minister of Agriculture pointed out that the Government had considered British agriculture from the point of view of (1) the welfare of agriculture itself, (2) the national defense, and (3) the importance of maintaining maximum supplies for the consumer consistent with reasonable remuneration for the producer.

In formulating its policy toward agriculture, the British Government had been confronted with two alternatives. The objective of one was to assure the ability of British agriculture to produce sufficient food to meet the nation's requirements in time of war. The objective of the other was to assure an efficient development of British agriculture in time of peace.

The Minister pointed out that a drastic policy of food production for war purposes would entail the extensive conversion of grasslands into crop areas devoted to cereals and other foods for human consumption. It was indicated, however, that the adoption of such a policy might run contrary to the best interests of British agriculture. Because of physical and climatic conditions, animal husbandry, referred to as the foundation of British agriculture, has to be based on a grassland system.

The British Government was of the opinion that putting agriculture on a war-time footing was impracticable and undesirable. Moreover, a policy of thus stimulating agricultural production in time of peace would result in a highly artificial situation that would react to the great disadvantage of British farmers if a war-time emergency did not arise.

The policy of the Government, therefore, was to support such proposals as would place British agriculture in a position to take immediate advantage of improved soil fertility should a war emergency arise but, should it not arise, would simultaneously permit increasing the productivity of land and livestock along lines that were not at variance with the normal peace-time development of agriculture. As in the past, the Government would initiate proposals for dealing with particular products. The central objective at all times, however, would be the normal development of agriculture along economic lines.

To achieve that objective, the Government now proposes (1) to build up reserves of soil fertility which would, by granting subsidies for the increased use of lime, be immediately available in a war emergency; (2) to encourage expansion in domestic wheat production to a point where home producers would harvest approximately 65,000,000 bushels of millable wheat annually; (3) to maintain production of oats and barley by the adoption of a system designed to insure against low prices; (4) to extend the system of Exchequer grants for land damage; (5) to bring about a more profitable utilization of the nation's greatest natural resource, its grasslands; (6) to promote the prosperity and efficiency of the livestock industry; and (7) to initiate a large-scale and comprehensive campaign for the eradication of animal diseases.

. . . .

ARGENTINA AUTHORIZES ESTABLISHMENT OF A MEAT-MARKETING AGENCY

Under a decree issued on June 26, the Argentine Government authorized the establishment of a producer-owned marketing organization to specialize in, and to improve, the marketing of livestock and meat products throughout the nation, according to a report to the Bureau of Agricultural Economics from its Buenos Aires office.

The new organization, to be owned exclusively by livestock producers, is authorized to purchase, build, and operate stockyards, construct and operate refrigeration facilities, and put into practice such measures as will improve the present mechanism for marketing fresh meats in Argentina.

While the new decree anticipates the purchase by livestock producers of the large Liniers stockyards at Buenos Aires, now under municipal management, as well as many privately owned stockyards in cities and towns throughout the country, the main emphasis is placed upon the acquisition, construction, and operation of producer-owned cold-storage facilities, the development of a unified meat-inspection service, and the improvement in distribution of livestock products in the interior of the country.

At present there is practically no movement of fresh meats from the large packing plants in coastal cities to interior markets, largely because of lack of cold-storage facilities. As a result, interior markets are unable to obtain meat products of the quality, variety, or hygienic condition desired.

The Argentine Meat Board is authorized in the law to allocate funds to the new meat-marketing agency from revenues secured by an assessment of 1 percent on all sales of livestock in central markets and to give the agency every assistance in developing an efficient system for the nation-wide distribution of fresh meats.

. . . .

- - - - - - -

ITALIAN AGRICULTURAL POLICY

In a recent radio broadcast addressed to the farmers of Italy, the Italian Minister of Agriculture declared that during 1937 the nation apparently will come closer than ever before to producing enough wheat to supply its domestic needs, thus marking the progress of the "Battle of Grain" inaugurated by the Fascist Government on July 4, 1925, according to a report to the Bureau of Agricultural Economics from the American Embassy in Rome.

Summing up the agricultural situation in Italy, the Minister said that efforts must now be concentrated upon the production of corn, oats, oleaginous products, and meat, the domestic supply of which has not yet begun to fulfill national requirements.

The Minister explained that the fundamental problem of Italian agriculture was to bring about a definite increase in the quantity of certain agricultural exports and to increase domestic production of others to such an extent as to eliminate deficits now covered by imports. With this end in view, individual farmers must cooperate in carrying out the general plans drawn up by the corporations upon the basis of the country's needs, since within the corporative state no one is any longer permitted to produce what or how he likes.

The Minister also spoke of the necessity of concentrating further on the development of agricultural consortiums and collective storage organizations and stated that collective storage was the condition precedent to fair prices and control of the market. The wheat-storage plan, which was both economic and political, the Minister explained, had been a "revolution for the entire agricultural world and an example and guaranty for the regime", since Italy had in fact been about the only country in which the price of bread had remained unchanged since last year, although the price of wheat had doubled in the meanwhile.

. . . .

ARGENTINA ORGANIZES WOOL RESEARCH INSTITUTE

Further indication of the policy of the Argentine Government to bring about improvements in the production, marketing, and quality of farm products is evidenced by the recent completion of an organization which will devote its attention to sheep and wool, according to a report received in the Bureau of Agricultural Economics from its Buenos Aires office.

A recent order of the Argentine Minister of Agriculture appointed the personnel of a Wool Research Institute, the laboratory for which, with all the necessary instruments and equipment, had previously been set up. The objective of the Institute is to bring about improvements not only in the methods of production but also in the methods of marketing sheep and wool.

Among the functions of the Institute are (1) making of analyses of wools from various breeds of sheep; (2) determination of the effects on the quality of wool of medicines for the elimination of scab diseases; (3) advising breeders with regard to shearing, grading, packing, and transportation of wool; and (4) keeping producers informed of market developments in Argentina and abroad that are likely to affect the price of wool.

The Institute will also be responsible for (1) the establishment of breeds suitable to various regions of the country; (2) the training of experts for the selection of sheep for breeding purposes; (3) the diagnosis and treatment of diseases; and (4) the conduct of experiments relating to the feeding of sheep with a view to determining the effects of various rations on the quantity and quality of wool produced.

Finally it will be the function of the Institute (1) to establish wool standards in accordance with the requirements of foreign consumers; (2) to train wool graders; (3) to prepare official wool samples for distribution among local breeders and Argentine Consulates and manufacturing centers abroad; (4) to organize and conduct regional and national contests in the production of quality fleeces; and (5) to develop improved marketing facilities.

* * *